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IMPLICATIONS OF THE FS-X AIRCRAFT AGREEMENT BETWEEN THE UNITED STATES AND JAPAN

HEARINGS BEFORE THE SUBCOMMITTEE ON DEFENSE INDUSTRY AND TECHNOLOGY OF THE COMMITTEE ON ARMED SERVICES UNITED STATES SENATE ONE HUNDRED FIRST CONGRESS FIRST SESSION

MARCH 10 AND MAY 9, 1989

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(III)

IMPLICATIONS OF THE FS-X AIRCRAFT AGREEMENT BETWEEN THE UNITED STATES AND JAPAN

FRIDAY, MARCH 10, 1989

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON DEFENSE INDUSTRY AND TECHNOLOGY,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:34 a.m., in room SD-430, Dirksen Senate Office Building, Senator Jeff Bingaman (chairman of the subcommittee) presiding.

Committee members present: Senators Bingaman, Levin, Dixon, Byrd, Warner, Thurmond, and Wallop.

Other Senators present: Senator D'Amato.

Professional staff members present: Richard D. Finn, Jr. and John J. Hamre.

Minority staff members present: Jonathan L. Etherton, Judith A. Freedman, and Durwood W. Ringo, Jr.

Staff assistants present: Cindy Pearson and Kelli J. Pronovost.

Committee members' assistants present: Edward M. McGaffigan, Jr., assistant to Senator Bingaman; Charles C. Smith, assistant to Senator Dixon; Charles Percy, assistant to Senator Lott; Eric H. Thoemmes, assistant to Senator Coats; Ken Luongo, assistant to Senator Levin; Leon Fuerth, assistant to Senator Gore; Dick D'Amato, assistant to Senator Byrd; Grayson F. Winterling, assistant to Senator Warner; and Jack D. Crouch II, assistant to Senator Wallop.

OPENING STATEMENT OF SENATOR JEFF BINGAMAN, CHAIRMAN

Senator BINGAMAN. The subcommittee will come to order.

The Defense Industry and Technology Subcommittee meets this morning to discuss the proposed agreement between the United States and Japan to co-develop a new fighter, the FS-X, as a derivative of General Dynamics' F-16.

We have an eminently qualified group of witnesses—three in favor of that agreement and three who have expressed some grave reservations with regard to the agreement as it now stands.

The debate that we will hear parts of today among these witnesses reflects a very real battle currently underway in the new administration over this arrangement, which has been left by this administration's predecessors. The Departments of Defense and State and the National Security Council are arrayed in that struggle against the Departments of Commerce, Treasury, Labor, and

the Office of the Trade Representative and the Science and Technology Policy Board. That debate may come to a head in the next few days, since reports are due today at the White House. I, frankly, am one of those with strong reservations about the agreement as it has been put forward. Indeed, those misgivings are fairly widespread on Capitol Hill, on both sides of the aisle.

I believe that the process whereby the agreement was reached was flawed in that the Departments of State and Defense excluded from the negotiations the agencies which deal with our economic and trade policies. The fundamental decision at the start of these negotiations was to not link our defense and trade relations. That decision, in my view, was unsustainable.

Most Americans see a direct link between Japan's superior economic performance over the past three decades and their low defense investment, compared to ours.

It was unsustainable because Japanese trade practices are the chief irritant in relations between the United States and Japan. After more than a decade of negotiations, attempting to bring balance to our trade relations, the annual trade deficit with Japan stands at \$55 billion, and is, once again, growing, despite the sharp fall in the value of the dollar since September 1985.

In my view, this process has resulted in a widely-criticized agreement. The details of the agreement will be the focus of many of the questions today. I hope that today's witnesses will delve not only into the details of the proposed FS-X agreement, but will also discuss how in the future we can better manage our economic and defense policies with our allies, who are also our greatest economic rivals.

The era where the United States dominated the world economy and could afford to extend an altruistic hand to our allies without concern for the economic implications of that assistance has passed. Our policy from that era worked. Our allies are today economically vibrant.

Now we must grope toward a new policy model, one that will be more insistent on reciprocity. Our allies do a much better job than we do of linking their economic policies with their defense and foreign policies. Because of a different perception of the threat from the Soviet Union, they tend to give priority to their economic interests.

The challenge we face is to learn to better pursue our own economic interests as our allies pursue theirs, without undermining the security alliance that has served us and our allies so well since World War II.

Before I turn to our first witness, former Secretary of Defense, Frank Carlucci, I want to welcome Senator Wallop, who is the new ranking minority member of this subcommittee, and ask him to make any statement that he has. Also, we have advised all members, all Senators present, that if they would like to make short opening statements, they are welcome to do so.

We are going to try to keep the statements short so that we can get on to the excellent witnesses that we have.

Senator Wallop.

Senator WALLOP. Thank you, Mr. Chairman.

Let me begin by saying that I regret that the first hearing for 1989 for this subcommittee, on which I am privileged to be your ranking member, is taking place over my objections. I feel it is necessary to state for the record my concerns with holding a hearing on the FS-X agreement at this time, and those are concerns which I discussed with you, Mr. Chairman, last week.

At the request of a number of Senators, including a majority of the members of this subcommittee, the Bush administration is conducting a broad inter-agency review of the Memorandum of Understanding on the research and development of the FS-X aircraft, which was concluded between the United States and Japan in November 1988. As requested, six agencies are currently examining the various implications of proceeding with this agreement. These agencies will have their recommendations in to the National Security Council today. A Presidential decision is expected next week.

Mr. Chairman, you said that you hoped the witnesses would discuss the details of the proposed agreement, and I would suggest that that is going to be extremely difficult for them. In the first place, the agreement is classified, and only a couple of the witnesses will have seen it.

In the second place, the review is still not with us.

So, holding a hearing at this time for the express purpose of influencing an inter-agency review that is taking place at the request of Congress is, I think, a sign of bad faith.

We know that the administration witnesses cannot testify before the review is completed. General Dynamics, the principal U.S. contractor involved in the FS-X project, is similarly constrained from testifying.

Therefore, most of the witnesses for this hearing are individuals with little or no first-hand knowledge of what is actually contained in the FS-X MOU. Such a situation will inevitably produce many inaccuracies concerning this agreement.

I think it is only fair, Mr. Chairman, that we hold another subcommittee hearing on this issue following the completion of the inter-agency review. The administration should be afforded the opportunity to respond to its critics. I spoke with you last week about this, and I would like to make my request again on the record. Would you agree to such a hearing?

Senator BINGAMAN. I would be glad to have another hearing on this, at the convenience of the administration. Of course, we feel that their point of view is adequately represented here.

Senator WALLOP. Well, Mr. Chairman, I think they don't have a point of view yet, which is the reason why we have asked them for the inter-agency review.

But, despite my concerns about proceeding with the hearing, I am pleased to see that we have on the witness list today two former Government officials who were involved in the FS-X project during their time in the Reagan administration. I am, of course, referring to our first witness, former Secretary of Defense Frank Carlucci, and Mr. James Auer, former Special Assistant for Japan in the Office of the Assistant Secretary of Defense. I look forward to their testimony.

In my opinion, opponents bear a very heavy burden of proof for showing that the United States should not go ahead with this

agreement. From my initial study of the FS-X Memorandum of Understanding, I feel that the Reagan administration is to be commended for concluding an agreement which guarantees a large workshare for U.S. industry and which is beneficial both to the United States and our close ally, Japan.

The ability of the executive branch to negotiate agreements implementing the cooperative principles championed by the chairman and ranking member of the Senate Armed Services Committee could be seriously compromised if we do not proceed with the agreement. We should not lose sight of the fact that many in Japan originally wanted the FS-X to be a domestically produced fighter, and that will be the likely result should we reject the current agreement. If that were to happen, the United States would lose in both economic and military terms.

Mr. Chairman, I would like to make several final points about this agreement. I understand the concern of some Senators that the FS-X agreement represents a negative watershed in our security relationship with the Japanese. Some Senators are understandably concerned that the FS-X marks the beginning of the end for off-the-shelf sales of U.S. military equipment to the Japanese. Indeed, I have heard it said more than once that the Japanese are headed in the same direction as our European allies. While I understand this concern, I do not share it. I believe the Japanese cannot, and should not, entertain the possibility that the United States would find acceptable such a basis for a long-term security relationship.

Many in Congress want the Japanese to do more on defense, to spend more money and take on new defensive roles, and the like. I share that view. But I also recognize that the Japan of the 1990s is not the Japan of the 1950s or the 1960s. There is no way we can expect the Japanese to do more on defense and spend it all in our country.

Today, the Japanese buy over \$1 billion a year in defense hardware from the United States. That is more than the combined purchases of Great Britain, Italy, and France. What is more, all that trade is one-way. We buy no defense equipment from the Japanese. This brings about an essential point, about maintaining a balance between our security relationship with Japan and our technological base at home.

An absolutely critical element for a healthy business relationship is dependability. Right now, 95 percent of the defense equipment the Japanese buy overseas is bought from the United States. If we want them to continue to buy from us, it seems curious that some on the other side of this issue think that tearing up this agreement will help accomplish that.

Besides the fact that the Japanese will most likely go out and produce their own fighter aircraft if the FS-X deal falls through, I am concerned about the longer-term effect this might have on the U.S. defense industrial base. If we are not a reliable supplier of defense equipment and other technology, I can assure you that the Japanese can, and will, turn to other foreign sources, such as the French or the British, or they will develop the indigenous capability to produce what they need. Before we launch head-long into abandoning this agreement, I would hope that those who are op-

posed to it would ask themselves if that is actually the outcome that they seek.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

We have a new member of the subcommittee with us today, Senator Robert Byrd. We are very pleased to have you here. If you have an opening statement, we would be pleased to hear it.

Senator BYRD. Thank you, Mr. Chairman.

Let me compliment you on holding this hearing. I think it is very important that this hearing be conducted. I think it is important that the administration gets the message that trade and defense policies should be related. And I think it is important that the Japanese get the message that we are concerned about this agreement, especially in the light of experience.

I think we have a right to be skeptical of supporting the deal until we have thoroughly exhausted the information regarding it because of, one, past use of U.S. technology by the Japanese at the expense of American industry, including by competitive tactics that can be called cut-throat, under-cost-selling, dumping, and so forth; and, two, past Japanese violations of agreements entered into with the United States—for instance, the 1986 Semiconductor Agreement to bring about increased sales of foreign semiconductors in Japanese markets and to end Japanese dumping.

By March 1987, it was clear that the Government of Japan had failed to enforce key provisions of the agreement. On April 17, 1987, after a congressional resolution urging the emplacement of sanctions on the Japanese, the U.S. Government did impose \$310 million in sanctions, which was a historical first.

I think it is also important to impress upon the administration the necessity of having the Commerce Department and U.S. Trade Representative's Office involved in these negotiations—not just the Defense Department and the State Department, but the Commerce Department, which has a direct interest in the economy and the commerce, in the impact upon the economy, upon jobs, and upon the use of our technology, of such agreements.

An inter-agency review process is underway, which has, according to press accounts, identified some important areas where the agreements, that is, the Memorandum of Understanding with the Japanese Government and the Technical Assistance Agreement between General Dynamics and Mitsubishi, can be improved.

After several years of negotiation, for the administration to discover such problem areas so quickly gives me some pause that this agreement successfully protects and helps enhance a secure and healthy industrial base for the United States.

We have to be careful to marry our national security and our commercial, industrial, and trading situations. They are inter-related. That was the message that the Trade Bill of 1988 sought to convey.

The administration will not testify on the FS-X agreement at this time, but we do have some expert witnesses, as you pointed out. We don't have the officials of the various agencies who have been, in effect, negotiating with each other.

If the administration wants to submit a notification that it is going forward with the sale or transfer of F-16 technology to the

Japanese, I would hope that it would come in here and tell the Senate what the sale is all about, what technologies will and will not be transferred, and what the Japanese have now agreed to in regard to the respective percentage of work, the so-called work-share that is to prevail when production commences on the new plane.

Who is going to monitor the implementation of the agreement? It should be clearly understood that Commerce and the Special Trade Representative have to have a central role in the process, both in the negotiation of such agreements, transferring U.S. technology, and in the monitoring arrangements, implementing agreements that are reached. This did not happen in the FS-X case, and that is a main reason why we are here today.

The standard for judging the FS-X deal should be what is in the American national security interest, which may not at all be served by helping a commercial competitor to develop its aerospace industry in the guise of defense burdensharing. The standard should not be the preservation of Japanese national honor and preserving the details of an unbalanced and poorly negotiated document, although there is certainly nothing that I have against any country's national honor. It is just beside the point here.

I have heard the point that rejecting this agreement would damage the U.S.-Japanese relationship. But what is worse, the transient embarrassment and disappointment of an agreement rejected, if, indeed, it were to be finally rejected, or the fury that could ensue in 5 to 10 years, when it becomes clear, if it should, that the technology was mainly used to help build a Japanese world class aerospace industry that was eating into the world market shares of our own American companies? How will people view the Japanese relationship at that juncture?

So, I think what I am saying is that we had better make sure that this is a balanced arrangement now and that defense burdensharing is the pivotal value, and that specific provisions of these agreements ensure that that happens.

Finally, Mr. Chairman, I think it would be prudent to pass legislation requiring frequent reporting on certain parameters of the implementation of the agreement, if it goes forward, which will keep everyone honest. This would include reporting on the technology that is being transferred, on the interoperability characteristics of the emerging aircraft, and on the funding situation. An independent assessment group, such as GAO, could be privy to the activities of the entire project.

I will complete my statement at this point and pass on to other members. However, I do want to thank Secretary Carlucci for his great service which he has rendered in the past. I see that he is looking well, which we all appreciate. I have seen former Senators come back looking better than ever before. Mr. Secretary, I wish you were still Secretary of the Department of Defense. We have gone through some rather difficult times recently. But it is good to have you here before this committee. I commend you on your patriotism, on your hard work, and on your good service to our Government in the past.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you, Senator Byrd.

We have one other Senator who is a member of the Armed Services Committee and a former member of this subcommittee who has taken a great interest in this issue and this general area of concern, and that is Senator Dixon.

If you have a statement, Senator Dixon, go right ahead.

Senator DIXON. Thank you very much, Mr. Chairman.

I am delighted to hear my distinguished colleague and friend, the former majority leader and President pro tempore, say to Secretary Carlucci exactly what I would say. We found him to be an excellent Secretary of Defense, one who reached out to the Congress and served in an exemplary manner. We are going to miss him here on the Hill. I thank him for his many contributions to our national defense effort.

Mr. Chairman, I am pleased to be here today as your subcommittee considers the implications of the proposed FS-X agreement. As many of us know, I do not believe we should sell this F-16 fighter technology and aircraft development knowledge to the Japanese in the manner now under consideration.

I firmly believe that Japan should upgrade its air force with a superb high performance aircraft to meet our mutual defense needs. But I believe this should be accomplished by buying outright America's battle-proven F-16 fighter plane. This should be done because it is more economical. It reduces our trade imbalance and it gives their forces one of the best fighter planes ever built.

At the outset, I would like to comment briefly on one argument raised by the proponents of this technology transfer: that it is either this or the Japanese will go it alone. I do not accept that premise. I do not believe we ever really seriously tried to convince the Japanese to purchase the F-16.

Not very long ago, Israel decided not to proceed with the development of a new home-built fighter aircraft, the Lavi, and Israel exists in a very high threat environment, as we all know. They have a fighter air force that is considerably larger than Japan's—582 fighter aircraft for Israel versus 307 for Japan. They have substantial incentives to develop their own aircraft, yet they are choosing to buy from the United States. They did so because they could save substantial defense dollars by doing that, and because we devoted high-level attention to making our case. It makes sense for Japan to do what Israel is doing—buy its fighter aircraft from the United States. It is the most cost effective alternative for Japan.

Japan spends only approximately 1.5 percent of its GNP on defense, as opposed to 6.7 percent that we spend here in the United States. Buying American would save Japan roughly \$30 million an aircraft, giving the Japanese a lot more "defense bang for each buck."

Japan has a very limited market for fighter aircraft. The policy of the Japanese Government is not, I would assert, to export defense items. The only reason for Japan to insist on building its own fighter aircraft, therefore, has nothing to do with legitimate defense concerns, in my opinion. It can only be the desire to build a civilian-oriented aerospace industry designed to challenge U.S. world leadership in this area.

The Japanese and their American apologists say this fighter program for Japan is special. But we have heard that argument

before: rice is special, beef is special, super computers are special. In fact, quite a few areas where the United States has a cost or technological advantage seem to be special. I think we cannot afford to sit idly by and accept that position. We must challenge it when required by our long-term national interests to do so.

I would just like to say in conclusion, Mr. Chairman, that as you and others in the room may know, the Detroit News has released a story saying that Mitsubishi Heavy Industries is helping one of our enemies, Libya, build poison gas bombs that could be used against our 6th Fleet forces or our allies in the region. If this story is true, should we be giving technology to a firm that is aiding an enemy in the production of armaments that may be used against our own forces? At the very least, Mr. Chairman, I believe a full investigation to confirm or deny the validity of this story is desperately needed.

I thank the Chair.

Senator BINGAMAN. Thank you, Senator Dixon.

We are very pleased to have another Senator with us who is not a member of the committee, but who is vitally interested in this set of issues and has spoken out forcefully on them. Senator D'Amato, if you have a statement, please go right ahead.

Senator D'AMATO. First, Mr. Chairman, thank you for the courtesy which you have extended in permitting me the opportunity to participate in this important and most timely hearing.

It is timely because it is important that the administration and the inter-agency task force understand that this is not going to be business as usual; that we not be presented with a fait accompli and told we have got to take it because we can't go back, and because we have given our word, and because we have signed off, and it would be an embarrassment to the administration, and particularly to the President at this juncture in the administration.

I have heard some of my colleagues express concern. Yes, there is concern. I don't want to see this administration and our President, in particular, further impaired. But it's about time that we said to some of our negotiators that sometimes half a loaf—because that is the way I have heard this proposed agreement expressed—is not necessarily better than a deal and no loaf.

To cut through all of it—and I could not agree with my friend and colleague, Senator Byrd, more—I hear all this talk about national honor. It's good that the Japanese have national honor and pride. But what about our national honor and pride? What about fairness?

This is not just a matter of the so-called defense burdensharing. What a lot of nonsense. This agreement calls for the Japanese eventually to spend \$9 billion, when they could buy a plane off-the-shelf, which could be improved substantially for \$3 billion.

Where is fairness? If they are going to spend \$9 billion for Japanese employment of our technology instead of buying \$3 billion worth of planes that can do the job, then maybe it is about time we began to say that we can "return the favor."

Now, some may say, Senator, what you are saying constitutes protectionism. Well, I wonder why it is protectionism when it relates to our products, which are superior, cost-efficient, and effective. I call it fairness and good economic sense, not protectionism. I

am tired of it getting cloaked in that mantle whenever we come forth and ask that there be fairness.

If you look at the record on agreement after agreement such as the agreement with the F-15s, we were told—oh, sensitive technology, restrictions—don't worry. Then we find out behind the scenes it is eroded. Every one of those things was given away—100 technical, sensitive areas were transferred anyway.

We talk about work. Oh, we are going to get guaranteed work. But yet, when we talk about work-sharing, as Senator Byrd brought up, there is no Japanese guarantee. I understand when Secretary Baker talked about maybe getting 40 percent, they said oh, no, no, there is no guarantee about this work-share. It is incredible.

Whether it is in the areas of technological transfer, as the F-15s, or whether it is negotiations, as it relates to semiconductors, there is a track record to be considered. That track record is not a very good one as it relates to the Japanese keeping their commitments. I am sorry if I hurt their national pride by spelling out something I think somehow our negotiators have lost sense of. Take a look at the record and then tell me that we should have faith and confidence in this agreement as it exists today.

I think the hearing is a timely one. I thank you for permitting me to participate.

Senator BINGAMAN. Thank you very much, Senator D'Amato.

Mr. Secretary, I join all of my colleagues in thanking you for being here and in complimenting you on all of the good work you have done over many years for our Government, particularly as Secretary of Defense. You have heard our strongly held views. Now you can try to confuse us with the facts. We are anxious to hear your point of view. Go right ahead. Take as long as you would like.

STATEMENT OF HON. FRANK C. CARLUCCI, FORMER SECRETARY OF DEFENSE

Mr. CARLUCCI. Thank you, Mr. Chairman.

It is a pleasure to appear again before this subcommittee, and I commend the subcommittee for holding this hearing and for the work that it has done on our defense industrial base. I think that it is an enormously important issue that has not been given sufficient attention in this country.

I quite agree with the burden of most of your comments, that the FS-X issue raises broader questions. For this reason, I have elected to testify before you. I would ask, Mr. Chairman, that my statement be submitted for the record, and, with your permission, I will summarize it.

Senator BINGAMAN. It will be included in the record.

Mr. CARLUCCI. Thank you.

The issues that you have pointed out, the relationship between economic and defense policies, our overall relationships with Japan, including our security relationship, indeed our very faith in our own economic future, are the kind of issues that are raised by the FS-X initiative.

From where I sit, it often seems that the critics seem to lack faith in the ability of U.S. companies to compete. At the same time,

they believe the United States can dictate terms to Japan. We need to bear in mind that Japan is a sovereign democracy, and we had a large role to play in establishing that democracy.

You are all familiar with the history of this issue. Indeed, as I understood the members of the subcommittee, everybody agrees that Japan has a need for an updated fighter aircraft. The Japanese have never bought a fighter aircraft off-the-shelf. They have typically designed or co-produced their own aircraft. Their original decision, when they decided that they needed a new aircraft, was to design their new aircraft. The American companies involved appealed to three agencies—the Department of State, the Department of Defense, and the Department of Commerce—for assistance.

The Department of Defense weighed in very heavily. My predecessor, Secretary Weinberger, was deeply involved personally in urging the Japanese to buy American aircraft. When it became evident that that could not happen, he urged them to go the co-production route. I have had provided to me by the Department of Defense a memo which indicates the long process that the Department of Defense went through in bringing pressure to bear on the Japanese.

The fact is that it is simply not feasible to expect the Japanese to buy an aircraft off-the-shelf, nor is it that clear, Senator D'Amato, that there would be savings if they were to buy an aircraft off-the-shelf.

The Japanese would have to stand in line for the F-16, which means they would begin to get it about in 1992, and the estimates are that we would get about \$2 billion to \$2.5 billion for an off-the-shelf purchase. But if we go through with this MOU, there are very strong odds that we would get approximately that amount of money when the aircraft goes into production. And we do have sufficient control to see that that happens, at least in my judgment.

The Defense Department was successful in getting Japan to alter its position, and, indeed, even this committee indicated that if Japan were not to buy off-the-shelf aircraft, co-production was the next best option.

This deal is now being questioned. Some question it because of the lack of information. It is also being questioned because of the peculiar timing. It happens to come at a fault line between administrations. It happens also to come at a time when the Department of Commerce is being involved more deeply in these issues.

Let me say here that I do not have a problem with the Department of Commerce being involved in defense trade. But I think it is very important that the Department of Commerce's mission be defined here. If it is to help increase exports, that's fine. I am sure the Defense Department would welcome their help, although most of our MOUs do increase U.S. exports. We would particularly welcome their help on the difficult issue of arms sales to friendly, moderate countries in the Middle East. If their mission is to protect the industrial base, we would welcome their help there, particularly on an issue that I know you feel strongly about, Mr. Chairman, finding ways to stabilize the defense budget, which I think is the single most important thing we could do, to improve the defense industrial base. If it is to protect American technology, I welcome the Department of Commerce to the defense side of the table because

heretofore, whenever I have had discussions with the Department of Commerce, they have been very much in favor of transferring technology, albeit to some other countries.

Several of the members have indicated that they think trade and defense issues ought to be linked. Certainly I agree in a broader sense, Senator Byrd, that they ought to be linked, and our negotiations in defense do take into account our economic strength. We recognize that economic strength is a pillar of our national security.

On the other hand, if by linking these two issues you mean that trade should drive defense, then I have a problem. Our defense relationship with our allies, whether in Europe or Japan, must stand on its own, and if our allies begin to sense that we are using defense as a trojan horse to sell our products, then we run the risk of eroding our alliances. So, while these issues have to be related, the roles have to be clearly defined, in my judgment.

Mr. Chairman, I don't know how the inter-agency debate is going to come out. I am not privy to it. I am not part of it. I do welcome the Department of Commerce and STR participation in it. I do know that they will not find a couple of things—they won't find that the Defense Department sold out U.S. interests or gave away the store. They will find that we did negotiate successfully over a protracted period of time, and I was involved in some of this, in gaining a substantial workshare—35 percent to 40 percent.

They will find that General Dynamics is solidly in favor of this deal. Before I came here to testify, I called Stan Pace, the CEO of General Dynamics, and put the question directly to him: do you support this arrangement? The answer was a categorical yes.

So I would question why are we trying to save General Dynamics from itself. They get technology flowback and workshare of about one-half billion dollars immediately in the development phase, and then in the production phase that will go up to about \$2 billion. That is approximately 20,000 man-years of work in this country. It seems to me that the opponents of this arrangement are unable to promise anything along those lines that can be realistically negotiated.

Congress has in the past even allowed FMS money to be spent for the development of aircraft overseas that would compete with U.S. aircraft in foreign markets. This deal is an example of the reverse. We have negotiated an arrangement whereby Japan will be putting its money into an upgrade of U.S. aircraft and giving us some workshare and giving us a flowback of technology.

There have been accusations that this is a technology windfall for Japan. The technology which is being provided to Japan is not new. It is not 1989 state-of-the-art technology. In some documents that General Dynamics sent to me, they indicated that it was 10-year-old technology.

As the committee is aware, we have had co-production of the F-16 in some 10 countries already. Sure, there have been technological upgrades. But in negotiating the MOU and the arrangements for divulging technology, the Defense Department has taken steps to see that the upgraded technology is safeguarded.

There will be flowback in areas where we have an interest. This is another question that I placed to the CEO of General Dynamics.

He is deeply interested in getting the flowback on co-cured composites for an entire wing structure, and General Dynamics will be building two wing boxes where they will get the flowback of that technology. We are also interested in getting some flowback of technology in the phased array radar area, in the interface and manufacturing technologies.

The question has been asked, will this deal help the Japanese to compete with the United States in the commercial aircraft business or will they compete with us in the export of military aircraft? In the case of the latter, Japan has had a firm policy against exporting military aircraft, and I have no reason to expect that they will change that policy.

As far as commercial aircraft is concerned, this technology has very little applicability in the commercial area, except in the broad sense that they will have people working on airplanes. But if it were to have that kind of applicability, I would find it strange that companies such as McDonnell Douglas and Boeing would be supporting this deal. Indeed, my understanding is that the entire aerospace industry is supporting this deal. Boeing itself has licensing arrangements with Japan for the 747 and the 767.

Mr. Chairman, I fear that much of the criticism of the FS-X deal reflects a somewhat irrational fear of Japan's technological prowess. I have sat across the negotiating table from Japan's defense leaders and business leaders alike, and I am familiar with the high calibre of American officials and businessmen, including the leadership of General Dynamics. I am confident that they can compete.

I believe the FS-X deal represents a good arrangement for the United States and an excellent deal for Japan-U.S. security arrangements. I welcome the DOD review.

My hope, Mr. Chairman, is that a consensus will emerge which overcomes this distinctly un-American fear of new ventures. Protectionism, in whatever guise, has no place in America's future as a leader in an interdependent and highly competitive world.

The FS-X program charts a course for the U.S. defense industry that will enhance our national security, improve our competitive position, and broaden our dialogue with Japan. Those who oppose it are obliged to come up with a better option that achieves these purposes and is, in fact, negotiable. I do not believe that option exists.

Thank you, Mr. Chairman.

[The statement of Mr. Carlucci follows:]

STATEMENT OF FORMER SECRETARY OF DEFENSE
THE HONORABLE FRANK C. CARLUCCI
ON THE FSX PROGRAM

I THANK THE CHAIRMAN AND THE SUBCOMMITTEE MEMBERS FOR THIS OPPORTUNITY TO SHED SOME LIGHT ON AN ISSUE WHICH HAS AROUSED MUCH PUBLIC INTEREST AND YET IS NOT WELL UNDERSTOOD. THE FSX INITIATIVE APPEARS TO HAVE GALVANIZED SOME DEEP SENTIMENTS IN THIS COUNTRY ABOUT AMERICA'S ABILITY TO COMPETE IN THE FUTURE. THIS FIRST-OF-ITS-KIND CO-DEVELOPMENT AND CO-PRODUCTION PROGRAM BETWEEN THE UNITED STATES AND JAPAN SEEMS ALMOST TO HAVE SEPARATED THOSE AMERICANS WHO LOOK TO OUR ECONOMIC FUTURE WITH CONFIDENCE FROM THOSE WHO FEAR IT. IT IS BECAUSE OF ITS FAR-REACHING RAMIFICATIONS THAT I HAVE CHOSEN TO SPEAK OUT.

PARADOXICALLY, THE SAME PEOPLE WHO SEEM TO LACK FAITH IN THE ABILITY OF A LEADING U.S. INDUSTRIAL FIRM TO HOLD ITS OWN IN A JOINT PROJECT WITH A JAPANESE COUNTERPART ALSO HARBOR WHAT I CAN ONLY TERM AN EQUALLY MISTAKEN BELIEF THAT AT THE GOVERNMENT-TO-GOVERNMENT LEVEL, WASHINGTON SHOULD BE ABLE TO CALL ALL THE SHOTS. I THINK THE AMERICAN COMPETITIVE POSITION WILL BE STRENGTHENED WHEN ALL AMERICANS REALIZE THAT JAPAN IS A VIBRANT, SOVEREIGN DEMOCRACY, WITH A VERY ACTIVE POLITICAL AND LEGISLATIVE PROCESS MUCH LIKE OUR OWN.

TODAY, I WOULD LIKE TO DISCUSS THE SALIENT ISSUES INVOLVED IN THE FSX PROGRAM, AND AT THE SAME TIME HOPEFULLY PUT INTO PERSPECTIVE SOME OF THE EMOTIONALLY-BASED REACTIONS WHICH HAVE SURROUNDED IT.

FIRST, A BIT OF HISTORICAL BACKGROUND. MANY OPPONENTS OF THE FSX EITHER IGNORE THE FACT OR ARE SIMPLY UNAWARE THAT JAPAN

HAS NEVER PURCHASED AN OFF-THE-SHELF FIGHTER AIRCRAFT IN ITS HISTORY. IN RECENT DECADES, WHEN JAPAN HAS SOUGHT TO ADD SUBSTANTIAL NUMBERS OF TACTICAL AIRCRAFT TO ITS FORCE STRUCTURE, IT HAS EITHER ATTEMPTED INDIGENOUS DEVELOPMENT, AS WITH THE F-1, OR ENTERED INTO A LICENSED PRODUCTION AGREEMENT, AS IT DID WITH THE F-4, THE F-15, AND THE P-3.

LOOKING TO THE 1990s, JAPAN DETERMINED THAT IT NEEDED AN ADVANCED AIRCRAFT TO MEET ITS DEMANDING MISSION AND DESIGN REQUIREMENTS. JAPAN WEIGHED BOTH ITS MILITARY AND INDUSTRIAL OBJECTIVES IN DECLINING TO BUY AN OFF-THE-SHELF AIRCRAFT. IN THE 1990s, ITS F-15 AND P-3 PRODUCTION LINES WILL END, AND THE FSX PROVIDES A FOLLOW-ON. MOREOVER, THE BASIC DESIGN OF OUR OWN F-16 REPRESENTS EARLY-1970s TECHNOLOGY. I BELIEVE THAT THAT IS WHY JAPAN WAS FULLY INTENT ON DESIGNING AND BUILDING ITS OWN, IMPROVED AIRCRAFT FOR THE 1990s.

MY PREDECESSOR, CAP WEINBERGER, AND I BOTH SUPPORTED THE IDEA THAT JAPAN SHOULD HAVE AN ADVANCED AIRCRAFT TO DEFEND ITS TERRITORIAL SEA AND AIRSPACE. THE PROXIMITY OF JAPAN TO THE HEART OF SOVIET PACIFIC MILITARY OPERATIONS AT VLADIVOSTOK, ON THE KAMCHATKA PENINSULA AND IN THE SEA OF OKHOTSK, CLEARLY IDENTIFIED JAPAN'S AIRCRAFT REQUIREMENT WITH SHARED U.S. AND JAPANESE SECURITY INTERESTS.

WE TRIED TO PERSUADE OUR JAPANESE COLLEAGUES THAT A U.S. AIRCRAFT WOULD FULFILL JAPAN'S MISSION REQUIREMENTS. WE ARGUED REPEATEDLY AND FORCEFULLY THAT U.S. AIRCRAFT WERE THE MOST COST-EFFECTIVE AND PROVIDED THE MOST RAPIDLY-AVAILABLE SOLUTION TO THEIR NEEDS. YET, IT SOON BECAME CLEAR TO THE ENTIRE POLICY COMMUNITY THAT JAPAN WAS DETERMINED TO LAUNCH AND FUND A FULL-SCALE R&D EFFORT TO PRODUCE A NEW-GENERATION AIRCRAFT; AND

OUR CONSIDERED ASSESSMENT WAS THAT THE JAPANESE POSSESSED THE RESOURCES AND MANUFACTURING BASE TO UNDERTAKE THIS AMBITIOUS VENTURE.

IN THE END, UNDER STRONG PRESSURE FROM THE U.S., JAPAN RELENTED AND AGREED TO THE OPTION WE -- AND, INCIDENTALLY, THE SENATE ARMED SERVICES COMMITTEE -- BELIEVED MOST WORKABLE: NAMELY, CO-DEVELOPMENT BASED ON AN EXISTING U.S. AIRCRAFT.

THE JAPANESE SELECTED THE GENERAL DYNAMICS F-16 IN OCTOBER OF 1987. OUR TWO GOVERNMENTS THEN ENGAGED IN A YEAR OF TOUGH, HARD-NOSED NEGOTIATIONS, AND SIGNED THE MEMORANDUM OF UNDERSTANDING (MOU) FOR CO-DEVELOPMENT OF THE FSX IN NOVEMBER OF 1988. FOLLOWING EQUALLY INTENSIVE NEGOTIATIONS, THE TWO MAJOR JAPANESE AND AMERICAN COMPANIES INVOLVED, MITSUBISHI HEAVY INDUSTRIES (MHI) AND GENERAL DYNAMICS (GD) SIGNED A COMPANY-TO-COMPANY AGREEMENT IN JANUARY OF THIS YEAR.

TODAY, A PROGRAM WHICH WAS UNIVERSALLY SEEN AS A GOOD DEAL FOR THE UNITED STATES BY ALL U.S. PARTICIPANTS IN THE NEGOTIATING PROCESS IS UNDER RENEWED SCRUTINY. EDITORIALS ARE COMING OUT WITH VARYING DEGREES OF ENLIGHTENMENT AND MISUNDERSTANDING. I THINK THERE ARE TWO REASONS WHY THE FSX PROGRAM IS BEING REVIEWED. ONE IS SUBSTANTIVE: SOME WHO ARE UNFAMILIAR WITH THIS INITIATIVE HAVE LEGITIMATE QUESTIONS ABOUT ITS IMPLICATIONS FOR FUTURE U.S. INDUSTRIAL COMPETITIVENESS AND THE OVERALL BALANCE OF BENEFITS ACCRUING TO THE U.S. AND JAPAN. WHILE I AM AMONG THE MANY WHO FORESEE A SHARED, U.S.-JAPANESE BENEFIT FROM THIS ENDEAVOR IN STRATEGIC TERMS, I AM EQUALLY CONFIDENT THAT A CLOSE EXAMINATION OF THE TERMS OF THIS ARRANGEMENT WILL REASSURE THOSE AMERICANS WHO HAVE EXPRESSED

SKEPTICISM ABOUT ITS LONG-TERM BENEFIT TO U.S. INDUSTRY.

THE OTHER REASON FOR THE REVIEW IS PROCEDURAL. THE FSX AGREEMENT LANDED ON A BUREAUCRATIC FAULT-LINE IN WASHINGTON-- A CHANGE OF ADMINISTRATIONS, AND THE CONVENING OF A NEW CONGRESS. ALTHOUGH THE TRANSITION FROM THE REAGAN TO THE BUSH ADMINISTRATION HAS BEEN APTLY DESCRIBED AS A "FRIENDLY TAKEOVER," IT IS NATURAL THAT THE NEW ADMINISTRATION WOULD WISH TO MAKE ITS OWN ASSESSMENT OF MAJOR PROGRAMS SUCH AS THE FSX.

MOREOVER, AT THE BEGINNING OF 1989, THE BUREAUCRATIC PROCESS FOR THE DEVELOPMENT OF COOPERATIVE DEFENSE INDUSTRIAL INITIATIVES SUCH AS THE U.S.-JAPAN FSX PROGRAM HAS BEEN EXPANDED BEYOND THE DEFENSE AND STATE DEPARTMENTS TO INCLUDE THE COMMERCE DEPARTMENT AND THE U.S. TRADE REPRESENTATIVE (USTR). IT IS A QUIRK OF CIRCUMSTANCE THAT THE FSX PROGRAM HAD BEEN NEGOTIATED BUT NOT YET IMPLEMENTED WHEN THESE NEW BUREAUCRATIC PROCEDURES WERE CONTEMPLATED. AS THE COMMERCE DEPARTMENT HAD NO FAMILIARITY WITH THE PROGRAM, I CAN UNDERSTAND ITS DESIRE TO TAKE A GOOD HARD LOOK AT IT NOW.

MEMBERS OF THE 101ST CONGRESS ALSO ASKED IMPORTANT QUESTIONS ABOUT THE FSX PROJECT AND ITS ECONOMIC IMPLICATIONS FOR THE NEXT DECADE. PRESIDENT BUSH DIRECTED THE COMMERCE AND DEFENSE DEPARTMENTS TO CONDUCT AN URGENT REVIEW, THEREBY GIVING OUR GOVERNMENT'S PRINCIPAL ECONOMIC AND TRADE POLICYMAKERS THE OPPORTUNITY TO JUDGE THE DEAL FOR THEMSELVES BEFORE THE PRESIDENT TOOK ANY DECISION ON SENDING A 36(D) NOTIFICATION TO CONGRESS, AND BEFORE GENERAL DYNAMICS COULD PROVIDE ANY TECHNICAL DATA TO THE JAPANESE.

I AM NOT PRIVY TO THE DELIBERATIONS OF THE COMMERCE AND DEFENSE DEPARTMENT EXPERTS CONDUCTING THE REVIEW FOR THE PRESIDENT. BUT LET ME TELL THE SUBCOMMITTEE WHAT THESE OFFICIALS WILL NOT FIND. THEY WILL NOT FIND AN AGREEMENT WHICH SELLS OUT U.S. ECONOMIC INTERESTS FOR THE SAKE OF PURELY MILITARY OR STRATEGIC INTERESTS. IN FACT, AS I HAVE SAID ALREADY, OUR DEFENSE AND STATE DEPARTMENT NEGOTIATORS WERE WELL AWARE OF THE ECONOMIC EQUITIES AT STAKE, AND PROCEEDED FROM THE VIEW THAT ECONOMIC SECURITY IS A CORNERSTONE OF OUR FUTURE NATIONAL SECURITY.

SIMILARLY, THOSE CONDUCTING THE REVIEW WILL NOT FIND THAT OUR NEGOTIATORS "LOST THEIR SHIRTS" OR "GAVE AWAY THE STORE" ON TECHNOLOGY TRANSFER, AS HAS BEEN ALLEGED BY SOME.

I WILL CONFESS TO MORE THAN A LITTLE AMAZEMENT AT SOME OF THE DRASTIC PROPHECIES OF DOOM EMANATING FROM VARIOUS FSX OPPONENTS. IT HAS BEEN SAID, FOR EXAMPLE, THAT JAPAN WILL GAIN FROM THE U.S. FAR MORE IN VALUE THAN THE U.S. WILL GAIN FROM JAPAN. LET US EXAMINE THAT PROPOSITION BY LOOKING, FIRST, AT WHAT THE U.S. WILL GAIN. IN THE CO-DEVELOPMENT PHASE, U.S. INDUSTRY WILL RECEIVE A SUBSTANTIAL WORKSHARE, AMOUNTING TO BETWEEN 35 AND 45 PERCENT OF THE TOTAL DEVELOPMENT BUDGET. THAT IS EXPECTED TO BE ABOUT A HALF-BILLION DOLLARS.

WHEN WE ADD TO THAT THE PRODUCTION PHASE OF THE FSX PROGRAM, THE LIKELY U.S. WORKSHARE BRINGS THE ESTIMATED TOTAL TO AT LEAST TWO BILLION DOLLARS--ALL OF IT FINANCED DIRECTLY BY THE TREASURY OF THE GOVERNMENT OF JAPAN. IN OTHER WORDS, THE DEAL IN HAND OFFERS THE U.S. HIGH-TECHNOLOGY LABOR FORCE AN ESTIMATED 20,000 MAN-YEARS OF WORK. I URGE THE MEMBERS TO LISTEN CAREFULLY TO THE CRITICS; SEE IF THEY ARE PROMISING--REALISTICALLY--A SINGLE DOLLAR FROM JAPAN OR A SINGLE MAN-YEAR OF BENEFIT TO THE AMERICAN WORKER.

THE CONGRESS HAS BEEN VERY INDULGENT TO SOME FRIENDLY COUNTRIES IN RECENT YEARS BY ALLOWING A PORTION OF THEIR FOREIGN MILITARY SALES FUNDS TO BE SPENT OVERSEAS FOR THE BENEFIT OF THOSE OTHER COUNTRIES' DEFENSE INDUSTRIES. HERE WE FIND EXACTLY THE REVERSE: A FOREIGN COUNTRY IS EXPENDING SUBSTANTIAL NATIONAL FUNDS AND QUITE LIKELY WILL TRANSFER SOME TOP-LINE TECHNOLOGIES INTO THE U.S. INDUSTRIAL BASE. I HAVE NO DOUBT THAT OUR EUROPEAN ALLIES--WHO, BY THE WAY, ARE PROCEEDING WITH THE DEVELOPMENT OF THEIR OWN FIGHTER AIRCRAFT WITHOUT ANY U.S. INPUT--LOOK UPON OUR PARTICIPATION IN THIS VENTURE WITH NOTHING BUT ENVY.

DESPITE THESE FACTS, CRITICS HAVE CLAIMED THAT THE FSX PROGRAM WILL ENABLE JAPAN TO REAP A HIGH-TECHNOLOGY WINDFALL FROM U.S. INDUSTRY FAR EXCEEDING THE BENEFITS WE WILL DERIVE FROM THE DEAL. THIS PROPOSITION MERITS CLOSER EXAMINATION.

FOR ONE THING, THE F-16 TECHNOLOGY IS NOT NEW; IT DOES NOT REPRESENT 1989 STATE-OF-THE-ART TECHNOLOGY; AND THE AMERICAN TAXPAYER HAS ALREADY BENEFITED FROM THE F-16 CO-PRODUCTION VENTURES WE HAVE CONDUCTED WITH NO FEWER THAN TEN OTHER COUNTRIES. THERE HAVE BEEN TECHNOLOGICAL UPGRADES TO THE ORIGINAL F-16, TO BE SURE; BUT OUR FSX NEGOTIATORS WERE VERY CAREFUL TO ENSURE THAT ASPECTS OF THE FSX PROJECT IN WHICH THE U.S. WISHED TO GUARD ITS KEY TECHNOLOGIES WOULD BE DEVELOPED WHOLLY BY ONE COUNTRY OR THE OTHER.

FAR FROM BARGAINING AWAY AMERICA'S TECHNOLOGICAL CROWN JEWELS, THE FSX PROGRAM PROVIDES FOR SIGNIFICANT TECHNOLOGICAL FLOW-BACK FROM JAPAN TO THE U.S. IN AREAS WHERE THE JAPANESE INDUSTRIAL PARTNER MAY BE MORE ADVANCED THAN THE U.S. PARTNER.

CRITICS HAVE ALSO WARNED THAT JAPAN WILL USE ADVANTAGES GAINED THROUGH THE FSX PROGRAM TO OUT-COMPETE THE UNITED STATES IN THE 1990S AND BEYOND. INSTEAD OF FRIGHTENING THE AMERICAN PEOPLE, I HOPE THE MEMBERS WILL SEEK TO ENLIGHTEN THEM. TO BEGIN WITH, JAPAN DOES NOT EXPORT MILITARY AIRCRAFT OR ANY WEAPONS SYSTEMS; AND IT EXPORTS MILITARY TECHNOLOGY TO ONLY ONE COUNTRY: THE UNITED STATES. THIS POLICY IS A CARDINAL TENET OF JAPANESE POST-WAR POLICY THAT WOULD BE SHAKEN, IN MY VIEW, ONLY IF A MAJOR DISRUPTION OCCURRED IN THE U.S.-JAPAN DEFENSE RELATIONSHIP.

SOME HAVE MADE THE MYSTIFYING ALLEGATION THAT THE FSX PROGRAM WILL ENABLE JAPAN TO TAKE THE LEAD IN THE COMMERCIAL AVIATION INDUSTRY. I SAY "MYSTIFYING" BECAUSE I DO NOT HEAR AMERICA'S COMMERCIAL AIRCRAFT INDUSTRIES COMPLAINING ABOUT THE FSX INITIATIVE. THEY KNOW THAT FIGHTER AIRCRAFT AND COMMERCIAL AIRCRAFT ARE QUITE DISSIMILAR IN MANY BASIC RESPECTS. INDEED, IF THE FEAR OF JAPAN'S FUTURE DOMINANCE IN COMMERCIAL AVIATION WERE A VALID CONCERN, I DOUBT VERY MUCH THAT BOEING WOULD HAVE ENTERED INTO LICENSING ARRANGEMENTS WITH JAPAN FOR CO-PRODUCTION OF PORTIONS OF THE 747 AND 767. I UNDERSTAND, INCIDENTALLY, THAT THESE ARRANGEMENTS HAVE WORKED OUT QUITE SUCCESSFULLY FROM BOEING'S POINT OF VIEW.

IN THE END, MUCH OF THE CRITICISM OF THE FSX DEAL REFLECTS AN IRRATIONAL FEAR OF JAPAN'S TECHNOLOGICAL PROWESS. I HAVE SAT ACROSS THE NEGOTIATING TABLE FROM JAPANESE DEFENSE LEADERS AND BUSINESS LEADERS ALIKE. I AM EVEN MORE FAMILIAR WITH THE HIGH CALIBER OF AMERICAN OFFICIALS AND BUSINESSMEN, INCLUDING THE LEADERSHIP OF GENERAL DYNAMICS.

IT IS MY JUDGMENT THAT THE FSX REPRESENTS A GOOD DEAL FOR JAPAN, A GOOD DEAL FOR THE UNITED STATES, AND AN EXCELLENT

DEAL FOR THE U.S.-JAPAN SECURITY AND INDUSTRIAL RELATIONSHIP, WHICH WILL PROVIDE LEADERSHIP AND SET THE PACE FOR THE REST OF THE WORLD IN THE TWENTY-FIRST CENTURY. THAT IS WHY I WELCOME THE DOD-COMMERCE REVIEW, AND FEEL CONFIDENT THAT THE SECRETARY OF COMMERCE WILL RECOGNIZE A GOOD SOLID DEAL WHEN HE SEES IT.

IT IS VERY CLEAR TO ME WHY THE ENTIRE U.S. AEROSPACE INDUSTRY IS ENTHUSIASTICALLY SUPPORTIVE OF THE FSX INITIATIVE. IT IS NO SURPRISE AT ALL THAT THE EDITORS OF AVIATION WEEK AND SPACE TECHNOLOGY, THE WALL STREET JOURNAL AND THE ECONOMIST OF LONDON HAVE MARKED THIS INITIATIVE AS A CLEAR WINNER FOR THE UNITED STATES. THE ECONOMIST MADE A PARTICULARLY TELLING POINT WHEN IT NOTED, "IT IS HARD TO IMAGINE AMERICA QUIBBLING ABOUT THIS DEAL IF ITS PARTNER WERE, SAY, WEST GERMANY."

MY HOPE IS THAT A CONSENSUS WILL EMERGE WHICH OVERCOMES THIS DISTINCTLY UN-AMERICAN FEAR OF NEW VENTURES. PROTECTIONISM IN WHATEVER GUISE HAS NO PLACE IN AMERICA'S FUTURE AS A LEADER IN AN INTERDEPENDENT AND HIGHLY-COMPETITIVE WORLD. THE FSX PROGRAM CHARTS A COURSE FOR U.S. DEFENSE INDUSTRY THAT WILL ENHANCE OUR NATIONAL SECURITY, IMPROVE OUR COMPETITIVE POSITION AND BROADEN OUR DIALOGUE WITH JAPAN. THOSE WHO OPPOSE IT ARE OBLIGED TO COME UP WITH A BETTER OPTION THAT ACHIEVES THESE PURPOSES AND IS, IN FACT, NEGOTIABLE. I DO NOT BELIEVE THAT OPTION EXISTS.

I WILL BE PLEASED TO RESPOND TO ANY QUESTIONS.

Senator BINGAMAN. Thank you very much.

Since we have several people wanting to ask questions and quite a few witnesses, I think we will try to keep each round of questions to 5 minutes per Senator. We can then come back and do another round if necessary.

I would like to begin, Mr. Secretary, by asking about the production workshare issue. This is something there appears to be a substantial disagreement on. I have heard some in industry and some in the Defense Department indicate confidence, as I believe you just have, that the United States will participate in production to the extent of 40 percent, or something very close to that, and that is an arrangement that has been committed to and established in the agreements.

I have heard others say that the kind of language, the kind of agreement we have entered into with regard to production workshare, is not sufficiently specific: that there is not a sufficient commitment by the Japanese to allow us to participate in this production; and that we are going to encounter the same problem here that we did in semiconductors, where a generalized statement by Japanese officials that they would welcome our participation to a certain level if certain things happened did not turn out to be adequate to get us that participation.

I am anxious for you to tell me anything more you can about the basis for your optimism.

Mr. CARLUCCI. As you are aware, Mr. Chairman, the MOU is a classified document. One cannot reveal it in public. While it does not specifically nail down the production arrangements in concrete terms, I think it is quite implicit that the workshare arrangements would continue into the production phase. We have no reason to expect that Japan would not honor this kind of arrangement. We have had a very good track record with JDA in our defense relationships. We have had no instance of JDA going back on any agreements whatsoever.

Furthermore, we continue, of course, to maintain a string on this whole relationship. Nothing has been negotiated yet on the transfer of engines, for example. So, we are going to have to be deeply involved. The Japanese are going to know that they are going to need our continuing involvements. I have every reason to expect that the workshare arrangements will continue into the production phase.

Senator BINGAMAN. You indicated accurately that the MOU is classified. My understanding is that similar Memoranda of Understanding with our other allies are not classified, except perhaps in regard to some minor items that are handled by appendices. Why is this MOU classified?

Mr. CARLUCCI. I cannot give you a direct answer on that. Generally, things are classified depending on the kind of information that is revealed in the MOU. I suspect that this one probably contains some sensitive information.

But certainly I would anticipate that the Department of Defense would be prepared to review the MOU with the committee. This committee has access to classified information.

Senator BINGAMAN. It has been reviewed, as I understand it, with the Japanese Diet. Is that your understanding?

Mr. CARLUCCI. I do not know, Mr. Chairman. Perhaps your next witness would know. I am told that it has not.

Senator BINGAMAN. In the newspaper this morning there was an article indicating that, in regard to the question of Commerce Department involvement. The question is whether or not a representative of the Commerce Department would be permitted to sit on a special panel that would be created to oversee the use of the technology. The article states that the Pentagon has balked at participation by a civilian agency in a military contract. Your statements this morning seem to indicate that at least in your view, there is no problem with their participation. Is that what you said?

Mr. CARLUCCI. I said there is no problem with their participation in an inter-agency forum, providing their mission is carefully defined. If they are going to be there with a veto on national security matters, then I would object most strongly. If, on the other hand, they are participating in an inter-agency forum and lending their voice to the debate prior to a decision being made, and saying well, this is where the trade interest lies, then I would welcome their participation.

By the way, the Defense Department is not doing all that badly on trade, as Senator Wallop indicated. I ran the figures on our trade with the FRG, France, the U.K., and Japan, and I find that we have, in defense trade, a 2.7 to 1.0 favorable trade balance.

If the Department of Commerce is going to help improve that, fine, although they have to bear in mind that we are committed to the two-way street as well.

If we are worried about using defense to redress trade imbalances with our allies, then we have to look at more than Japan. We have a very heavy trade imbalance with the FRG, and they are producing the European fighter aircraft.

So I would like to know just what the mission of the Department of Commerce is going to be in inter-agency fora, because you can make the same argument for the Department of Labor or STR. Quite frankly, after 30 years of experience in government, Mr. Chairman, the more people you add to the process, the more constipated it becomes. We have been very successful in negotiating MOUs, and in promoting defense trade, and in promoting a national security relationship with other countries, including Japan. I would not like to see that process stymied in any way.

Senator BINGAMAN. Thank you, my time has expired.

Senator Wallop.

Senator WALLOP. Thank you, Mr. Chairman.

Mr. Carlucci, I think that it is curious that a panic button has been pressed on this arrangement when we have shared this technology with, I think you said, 10 other countries previous to this. Is that correct?

Mr. CARLUCCI. Yes.

Senator WALLOP. As I review the history of the FS-X project, I am struck by the irony of the situation in which we now find ourselves. It is my recollection that the Japanese originally wanted domestically to produce the FS-X aircraft.

Mr. CARLUCCI. That's correct.

Senator WALLOP. And it was only after very intense U.S. pressure that the Japanese agreed to co-develop—pressure, I might add, that was put on as well by this committee. Is that fair?

Mr. CARLUCCI. That's correct. I think the committee was helpful. You had something in your report, and the Defense Department did work with the committee. The pressure was extensive and protracted, and at the highest levels. Secretary Weinberger was personally involved.

Senator WALLOP. I recall that.

Let me also ask you about this confidence that we have in the so-called workshare. A great many other things that are not contained in the Memorandum of Understanding are still essential to the completion of the FS-X project, and those things are necessary items of U.S. production. Is that a correct statement?

Mr. CARLUCCI. That is correct. There are a great many other things, as the process goes along. This has to be a cooperative relationship all the way, and if one of the partners commits an act of infidelity, then the whole thing comes apart. There is certainly much more at stake than this particular deal. There is our overall relationship with Japan at stake, and the Japanese are well aware of that.

Senator WALLOP. In your opinion, that then gives us a fair hammer over future cooperation?

Mr. CARLUCCI. I think we have a very strong hammer over future cooperation, and as I have indicated, in the defense area the Japanese have been very cooperative.

Senator WALLOP. You also indicated in your statement that the technology that we are transferring or that we propose to transfer under this is not 1989 technology but something somewhat older.

Mr. CARLUCCI. That is correct. Where there is sensitive technology, such as specific avionic systems, then the arrangement would provide that either one party or the other does it entirely; that is to say, the Japanese would have to do it entirely. There would not be technology transfer.

Senator WALLOP. And yet we have access to that product, according to the Memorandum.

Mr. CARLUCCI. We would have access.

Senator WALLOP. That seems a pretty good deal in terms of access to Japanese technology capabilities.

Mr. CARLUCCI. It seems a pretty good deal to me, yes.

Senator WALLOP. Let me examine further the statement that you made. It is my understanding, and there is certainly no indication to the contrary, that neither Boeing nor McDonnell Douglas seems to have any worries about this. Isn't that probably because the fighter technology is not applicable to wide-bodied aircraft and civilian production?

Mr. CARLUCCI. I am getting a bit over my pay grade here, but that is my understanding—if you have a fighter aircraft, you have a rigid airframe there, whereas in a wide-bodied commercial aircraft, you have a flexible airframe.

Certainly you don't need the weapon systems or the avionics, so I don't know what is really transferable, other than in a very general sense the skill of the workman.

Senator WALLOP. Well, what does become somewhat transferable out of this is U.S. access to Japanese technological advances that may come with the production of their own airplane. I think you mentioned them: the co-cured composite structures and miniaturization. Those are things in which joint efforts between the Japanese and the United States might prove very beneficial to defense of that part of the world, as well as the rest.

Mr. CARLUCCI. I could not agree more. We think that these would be useful.

The experts in DOD are very anxious to learn more about the radar, specifically the integration and manufacturing technology of the active electronically scanned array radar in the avionics architecture.

I know General Dynamics is interested in the co-cured composites for an entire wing. We have composites, obviously, for smaller pieces of the aircraft. But we have not yet done it for an entire wing.

Senator WALLOP. Were Japan to go it alone and build their own FS-X, would there be any indication that we might have access to these technological advances?

Mr. CARLUCCI. None whatsoever. It would be approximately the same as the European fighter aircraft, where we have no access to the technology.

Senator WALLOP. Let me ask you this as my final question. Japan has now the third largest defense budget in the world, as I understand it.

Mr. CARLUCCI. It has or shortly will have.

Senator WALLOP. Well, it's among the very highest. We will leave it at that.

Mr. CARLUCCI. Yes, sir.

Senator WALLOP. Certainly it's within the top five. Is it not the case that the F-16, as it stands, off-the-shelf, is probably not the most ideal aircraft in terms of Japan's defense needs for the mission that would be assigned it in the defense of the Japanese homeland and the Northern Pacific areas?

Mr. CARLUCCI. I think most experts agree that they need an upgraded version of the F-16. We have to bear in mind that co-production lines—and, by the way, they are co-producing now the F-15 and the P-3—those lines will come to an end in the early 1990s. By then, the F-16, as it stands, off-the-shelf, would not have the capability that they need. I think people are generally agreed that they would need some kind of upgraded aircraft. Bear in mind what I said earlier, that even if they were to purchase the F-16 off-the-shelf, they would have to stand in line until 1992. It is unlikely to be able to meet their mission requirements.

Senator WALLOP. Thank you.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Senator Byrd.

Senator BYRD. Mr. Secretary, you indicated that trade should not drive our defense decisions, and I agree with that, certainly up to a point. In the past, there was no linkage at all, and no involvement of Commerce. What we are saying is that that ought not continue and cannot continue. The two are intimately linked because a

healthy industrial base is essential to our national security. Our trade policies are very essential to a strong economy and a healthy industrial base. So I think we have to keep in mind that very important factor. Our national security cannot be strong unless we have a strong economy, and that strong economy does depend upon trade, upon jobs.

You indicated that you had every reason to expect that the workshare agreement would continue into the production phase. I think that is a point that we ought to explore just a bit. You have every reason to expect the workshare agreement to continue. We have every reason to hope that it will, and I know that you and I, as we judge our values and the kind of agreements that we expect to enter into and maintain and live up to, we would have every right to expect the other party to do the same.

But that is where our problem arises. We have had our fingers burned too many times. While we have every reason to hope that the workshare would continue into the production phase, not just in the development phase, I think we have to do more than just expect or hope that the other party will carry this into the production share.

That is the share of the final production of airplanes. That means dollars to Americans. It seems to me that the Japanese should agree now, up front, in order for any prudent person to say that we got a good deal, agree that this workshare arrangement will, indeed, continue into the production phase. If we wait for the technology to be transferred before nailing down the Japanese on a specific workshare, what leverage do we have? What leverage do we have left once production begins? Doesn't it make sense to nail down a specific figure now, while we still have the leverage?

Mr. CARLUCCI. Senator Byrd, let me address the first part of your comments first. I indicated that I agree that there should be involvement of the economic agencies in the process, in the deliberative process. I don't think it is fair to say that the Defense Department has not paid attention to our economic relations. The Defense Department, above all, is vitally concerned with the industrial base.

As the chairman knows, I worked with this committee when I was Secretary of Defense on industrial base issues. On several occasions, I invited the Department of Commerce to work with us on the industrial base, but nothing ever materialized. In protecting the industrial base, I am not sure what kind of role you envisage for the Department of Commerce. If it is preventing technology transfers, then we have a lot of other countries to take into account besides Japan, including the Soviet Union and China.

So I come back to my point: we need to define the mission of the Department of Commerce very carefully. I agree that the two have to be related. But, as you said, you cannot have economic relations driving defense relations.

As far as the workshare is concerned, we have had favorable experience on the F-15 and the P-3, which are being co-produced with Japan. They are in a production phase. We are getting about a 40 percent workshare arrangement. So there is a track record with Japan. We have had no instance of the JDA going back on any agreements that we have made with them.

Furthermore, as I indicated to Senator Wallop, there will be lots of items of technology, even the engines, that have yet to be negotiated, as we go along in this process. So there will be plenty of leverage all the way with the Japanese. I am not familiar with the latest negotiations that have actually taken place, whether it is feasible to get the Japanese to say well, we will commit now on production. I don't know. Somebody currently in the Department of Defense would have to answer that question specifically.

Senator BYRD. Mr. Chairman, my time has expired, but let me just say that I agree with the Secretary that the mission should be defined. The problem is that heretofore there has not been any mission at all in this drive, to which the Secretary has referred. The Commerce Department should have a mission——

Mr. CARLUCCI. I agree.

Senator BYRD [continuing]. So that when the final decisions come down to the President, he can have a balance viewpoint expressed, which includes that Department, which I think has as its primary interest in matters of this nature American industry and the health of the American economy and American industry. It would give a balanced viewpoint. We could be sure that the concerns of the Commerce Department had been contemplated, taken into consideration, and I think that is mainly what I am suggesting. I think it would be a greater assurance to me that, indeed, such agreements are going to take into consideration the health of American industry, which, after all, is basic to the health of our national security.

Mr. CARLUCCI. I agree with that. Let me just make one point that I alluded to earlier that is vitally important. This is why you need to define a mission. Yes, we need a strong industrial base. But, as you are aware, very much aware, Senator Byrd, because you have been a strong supporter of our alliance, we need strong alliances as well. If the Department of Commerce simply enters in with a veto and does not sign up, for example, to the two-way street, that could undercut our alliances. So we need to define just exactly what the role of the Department of Commerce will be, and a pure veto is not a definition of mission.

Senator BYRD. I agree. I do not want to belabor this point, but it is the two-way street that we are concerned about. That is precisely it. We want to be sure that there is a two-way street and that it is not all going one way. That is one problem with our trade deficit right now—it is not quite a two-way street.

I thank you, Mr. Chairman.

Senator BINGAMAN. Thank you, Senator Byrd.

Senator D'Amato.

Senator D'AMATO. Thank you, Mr. Chairman.

I would like to pursue for a moment, Mr. Secretary, the line of questioning which Senator Byrd touched on as it relates to the Memorandum of Understanding. It has spelled out I think 35 percent to 40 percent of the development program will involve American companies. Is that essentially the case?

Mr. CARLUCCI. Yes, that is essentially the case.

Senator D'AMATO. Then why is it so difficult, and why is it that Senator Baker, in pursuing this Memorandum of Understanding,

was told an absolute "no" by the Japanese as it related to the United States undertaking a specific percentage for production?

I mean, if one thing is explicit, as it relates to development, why shouldn't we, in that contract, in that Memorandum of Understanding—and that is what it is, a contract—why should there not be with some specificity the same clearness and definiteness as it relates to production?

Don't we have a right?

Is that a matter of honor if we say we have a contract that spells out our various terms or commitments. I don't think that the United States should feel badly in saying that we want this spelled out because the Congress of the United States has reservations.

It may be that this Japanese administration really wants to go into full production with us when the development is done and they are ready to go into production. But in a future administration this agreement will not bind them.

Aren't we correct, then, in saying we should spell it out? Why shouldn't we?

Mr. CARLUCCI. I think it is less a matter of honor, Senator D'Amato, than it is the normal practice in negotiating MOUs or indeed in negotiating contracts with U.S. defense industry. You always negotiate a separate contract for the development phase and then for the production phase. You don't try to encompass it all in one contract. So I think it is fairly standard practice.

But let me reiterate that in the previous two cases that we had with the Japanese, the F-15 and the P-3, this workshare has applied to the production phase, and it is going very well. So we have no reason to expect that it would not happen. General Dynamics itself is quite satisfied with this arrangement.

Senator D'AMATO. Well, I'm not really concerned with General Dynamics and whether they are happy with it. Obviously they would like to get something as opposed to nothing, and that is what this Memorandum of Understanding does for them. At least it gives them access to the development program and that work.

Mr. Secretary, you keep mentioning that.

Mr. Secretary, as it relates to the F-16 and its availability, the Air Force is going to be making recommendations for cutbacks in our budget situation as it relates to the production of the F-16. I understand that they may be reduced by some 20 to 30 planes annually.

I would just make the observation that the Japanese would not be standing in line until 1992 for F-16 production and delivery.

However, is it fair to say that you are not going to get a delivery date on the FS-X until about 1995 or 1996?

Mr. CARLUCCI. It would be about the mid-1990s, as is my understanding.

Senator D'AMATO. While Japanese law presently prevents the foreign sales of military equipment, it could be changed. What concerns many of us is once this industrial base, as it relates to the production of FS-X has been paid for, the Japanese, as a result of this deal, will have a fine fighter bomber. Therefore, might it not come about that it would be in our national security interest to purchase this FS-X and might that not be what we will be presented with in 1997 or 1998, when Congress then has to say well, do we

continue flying or producing an outmoded F-16, or do we go into new production, or do we now purchase this world's finest technological plane from Japan? And won't the Japanese be able to export this plane not only to the United States but also to other countries? That is a concern I have. Would you address that?

Mr. CARLUCCI. Senator D'Amato, I don't think there is any chance of that occurring. The Air Force is moving with the advanced tactical fighter. That is really a state-of-the-art aircraft.

What we are talking about with the Japanese is the improvement on some components—the composites, the radar. But the aircraft that is finally produced will have nowhere near the capability that the ATF would have. So I don't think there is any risk that that would end up being the aircraft of choice.

Senator D'AMATO. Well, I make a prediction, Mr. Secretary—and I hope that my prediction is wrong—that indeed if this agreement goes through, essentially as it is outlined, we will be buying and many of our allies will be buying the FS-X in the years to come. As it relates to technological achievements that we are going to get the benefits of, such as composite materials, I have been informed that we are way, way ahead of the Japanese and that the flowback would be minimal.

Indeed, we have other companies, such as Northrop, that are doing this. They just completed flight-testing a co-cured composite fighter wing box in 1986.

I see my time has expired.

Mr. CARLUCCI. That is not the view of the CEO of General Dynamics.

Senator D'AMATO. I understand, Mr. Secretary, about General Dynamics. However, I am indicating that this technology exists at Northrop and several other companies.

Thank you.

Senator BINGAMAN. Mr. Secretary, I am sure each of us has a substantial number of additional questions that we would like to put to you. You have been very patient. We have two additional panels that are here to testify, so what I will do, if all members of the committee agree, is go ahead and allow you to proceed with your other duties and call on the second panel. I understand that Senator Wallop has some figures that he wants to put into the record.

Senator WALLOP. I do, Mr. Chairman, and I thank you.

[The information referred to follows:]

FISCAL YEAR 1988 DEFENSE TRADE FIGURES

[In millions of dollars]

	U.S. exports ¹	U.S. imports ²	2 way street ratio (exports/ imports)
Federal Republic of Germany.....	888.7	542.4	1.64
France.....	107.8	53.6	2.01
United Kingdom.....	546.2	884.0	.61
Japan ³	1,538.5	92.2	16.68
Total MOU countries.....	8,206.2	3,027.9	2.71

¹ Actual deliveries, FMS plus commercial sales of OMC-licensed items.

² Prime contract and subcontract awards.

³ Not MOU country.

CALENDAR YEAR 1988 GENERAL TRADE

[In millions of dollars]

	U.S. exports	U.S. imports	U.S. deficit
Federal Republic of Germany.....	14,331.3	27,420.6	13,089.3
France.....	10,132.7	12,699.6	2,566.9
United Kingdom.....	18,403.5	18,740.1	336.6
Japan.....	37,732.1	93,168.0	55,435.9

Senator WALLOP. I thank you, Mr. Secretary.

These are just the fiscal year 1988 defense trade figures, which show that while the Nation had a \$55 billion deficit, that trade in defense matters had a little better than a \$5 billion surplus, an almost 3 to 1 ratio of exports to imports.

I also would just like to say to my friend, with regard to the F-16 line, it may scale back, but the A-16 line will ramp up, and it is the same line as the replacement for the A-10. So I think that the problems which the former Secretary mentioned continue to exist, even with the F-16 rampback.

Senator BINGAMAN. Thank you very much, Mr. Secretary.

Mr. CARLUCCI. Thank you.

Senator BINGAMAN. Our second panel of witnesses consists of Clyde Prestowitz, the former Counselor for Japan Affairs to the Secretary of Commerce; Mr. James Auer, the former Special Assistant for Japan in the Office of the Secretary of Defense; and Professor Donald Hellmann, one of the Nation's foremost experts on United States-Japan security relations and head of the Japan Program at the Jackson School of International Studies at the University of Washington.

Gentlemen, please come forward. We will ask each of the witnesses to testify before we take questions proceeding in the order that I introduced you. We appreciate all of you taking the time to be here and giving us your views.

Mr. Prestowitz.

**STATEMENT OF CLYDE V. PRESTOWITZ, FORMER COUNSELOR
FOR JAPAN AFFAIRS TO THE SECRETARY OF COMMERCE**

Mr. PRESTOWITZ. Thank you very much, Mr. Chairman. I have a prepared statement that I would like to place in the record.

Senator BINGAMAN. It will be included in the record.

Mr. PRESTOWITZ. Thank you very much. I will just make a short summary of that here.

Mr. Chairman, I would like to focus on what I think is the main issue in the FS-X agreement. We have talked about defense. We have talked about the relationship with Japan. We have talked about reliability. I think the main issue lies elsewhere.

It is interesting to note that all participants on the American side, be they proponents of the agreement or opponents of the agreement, share a very broad basis of overall agreement. When the FS-X deal was initially being discussed, on the U.S. side some criteria were developed as to what we wanted, what we thought

was necessary. The United States decided at that time that, in view of the buildup of the Soviet Union in the Far East, Japan needed a new airplane fairly shortly—like in the late 1980s and the early 1990s. Moreover, this was a view shared by Japan. Some people have mentioned that Japan initially wanted to build this plane itself.

In fact, that is not the case. If you go back to 1978 and 1979 and look at Japan's mid-term budgets at that time, you will find plans to replace the F-1 with an off-the-shelf American plane in the late 1980s.

The program to build the FS-X indigenously was a product of later discussions in Japan, in the early 1980s, after the publication of MITI's white paper focusing on the importance of achieving technological autonomy in 1980.

So, we all agree that Japan needed a new airplane in the late 1980s. Further, it was agreed that the plane should be a multi-mission configuration; that is, that it should be able to handle anti-ship, anti-air, dog fighting, and other capabilities. It was agreed that the plane should be at the least cost possible. It was agreed that the plane should be interoperable with American aircraft, that the United States should have access to Japanese technology on the same basis that Japan has access to United States technology. And further, it is obvious that, from the point of view of the U.S. trade deficit, the more planes or parts or components that are bought in the United States, the better off the United States is.

Now, in fact, if we look at the situation today, I think everyone on the U.S. side would agree that the best defense solution for Japan is not the FS-X, but is one of three possible American planes—the F-16, the F-15E or the F-18. Everyone agrees that the lowest cost solution would be to buy an American plane, either off-the-shelf, or an upgraded version. Everyone agrees that the earliest entry into the Japanese defense forces would be an American plane. Secretary Carlucci just said 1992.

The FS-X will not be available in the Japanese forces until at least 1996, and possibly later. The FS-X will not be interoperable with American aircraft. It won't carry the same weapons. It probably won't even be capable of being refueled by American tankers. And it is very questionable whether the United States will achieve reciprocal access to technology. But even if it did, the other points I think are valid.

So, if the plane does not provide the best defense of Japan, and it does not provide the lowest cost option for Japan, then let's look at it from a trade point of view. We have a \$55 billion trade deficit with this nation, for which we bear the primary defense responsibility. From the point of view of free trade principles, I was amazed, I must say, earlier this morning to hear Secretary Carlucci describe the position of the opponents of the FS-X deal as "protectionist."

Airplanes, fighter aircraft, are something that we unquestionably have a comparative advantage in. We make the best and the cheapest. If Japan is not prepared to buy an airplane from the United States, essentially it is saying that it is not prepared to buy a product in which the United States has a comparative advantage. But that, buying products in which you have a comparative advantage,

is the basis of free trade. So, this agreement had nothing to do with free trade. In fact, it is the opposite of that.

So then we have to ask ourselves if the purpose of the FS-X project is not to provide the best defense solution, if it is not to provide the most cost effective solution, if it is not to support the principles of free trade, what is the purpose of the project?

The answer to that has neither been given by me nor by the Commerce Department. The answer to that has been given by the Japanese press, by the Japanese self-defense forces, by the Japanese Ministry of International Trade and Industry. The answer is that this program is a major factor in Japan's efforts to build a world-class aircraft industry and a world-class aircraft industry, as an industrial objective of Japan, is nothing new.

Japan passed a law in 1954 providing responsibility to MITI to develop a world-class aircraft industry in Japan, and that program has been underway for the past 35 years and it continues. Japan has not made any bones about this. All you have to do is read the Japanese press, read the publications of MITI and the other Japanese defense agencies, and they tell you that the main purpose of this program is to enhance Japan's drive toward competitiveness in aircraft. Japan wants to be competitive in aircraft because it sees aircraft as a vehicle for technological development across a broad range of technologies—electronics, materials, robotics, and so forth.

Now, that being the case, then I think the question from the United States point of view should be how do we approach a negotiation with Japan? If the objective of the project is not defense, if it is not economic, if, in fact, Japan is approaching this kind of deal from the point of view of using it to achieve a certain industrial objective, then maybe that should be the basis of the American approach as well.

Secretary Carlucci said earlier this morning that trade should not drive defense. That, of course, is the traditional American position. And I daresay that most people in this room would agree with it. But if you look at the Japanese position, trade does drive defense in Japan. In fact, the Japanese equate trade and industrial competitiveness with defense. Their national security policy is an industrial policy, to achieve world-class capability in all areas of high technology. They look upon that as a defense policy. And so, if they are negotiating an FS-X deal from that point of view, perhaps the United States should, too.

The criteria, then, the issue at stake really is this: What will be in the long-term best interests of the United States aircraft industry? Today we have a comparative advantage in aircraft. We make the cheapest and the best. That advantage in aircraft is valuable to us as a nation. It provides high wage employment. It creates wealth in this country. Our objective should be to maintain our lead in aircraft. And so, a deal, any deal, should be judged from the point of view of whether, at the conclusion of that deal, the United States is going to have the same lead it has now, a bigger lead than it has now, or a lesser lead than it has now.

Now, clearly, if Japan were to buy all these airplanes from the United States, which is one option in this deal, the U.S. lead would be at least maintained and perhaps enhanced. I think everyone agrees that from a U.S. point of view that that is the best deal. But

that is not the only possible deal, and a deal per se is not necessarily bad. It is conceivable that we could make a deal that would enhance the American position. And if we could enhance the American position by doing the FS-X, we ought to do it.

A second possible deal is co-production. That is what we do on the F-15. Now, the words "co-production" and "co-development" are bandied about and used loosely, and sometimes the impression is given that these are the same thing. But these are not the same thing.

Co-production essentially involves assembly of the parts of an airplane that has already been designed, developed, and integrated by the United States. If you look at aircraft production, there is a value-added chain. The least important part of the airplane production is bending the metal. The most important part is systems integration and avionics. In co-production, systems integration, avionics, aerodynamic testing, all of the highest value parts of the value added chain are done by the United States.

In co-development, all of those are done either by Japan or by whoever the co-developer happens to be, or jointly.

But the point is that from a technological, value-added point of view, co-development is much less advantageous to the United States than is co-production.

Therefore, if we can't sell an airplane—and let me diverge for just a moment, because one of the major assumptions of this deal has been that everybody agrees the best thing would be for us to sell the airplanes to Japan, but that is out of the question because we cannot do that. In fact, it has been said that Japan has never bought a plane from us since 1955. Strictly speaking, that is not the case. Japan has bought C-130 transports from us, and PC-3s, and E-2Cs from us since 1955.

But the point that I want to make is this: It is not clear that we have ever really tried to sell the airplane to Japan. The argument is made that Japan is a sovereign nation and we cannot dictate to her. Of course that is true. But Japan is not a nation with which we have no influence. We have a \$55 billion trade deficit. Japan's prosperity is largely linked to its ability to operate untrammelled in this market. We are ultimately responsible for Japan's nuclear shield and defense umbrella.

Now, we have used our influence to prevent the Israelis from building an airplane. We have influence.

Imagine the shoe on the other foot. You gentlemen know that when the issue is a Toshiba machine, when the issue is machine tools, when the issue is semiconductors, the Japanese ambassador here in Washington is all over the Hill. He comes to see you. He sends his minions. Messages are sent from the Japanese Prime Minister, personal messages to the President, urging the Japanese position, and Japan influences our policy procedures.

We had an ambassador in Japan in the past 10 years who is widely reported to have been one of our best ambassadors. He is reported to have been revered by the Japanese and have great influence in Japan. We had a President who had what is called the "Ron-Yasu" relationship with the Japanese Prime Minister.

In the case of the FS-X, I think you should ask this question: Did that ambassador ever do what the Japanese ambassador does here

in Washington? Did he go to the Prime Minister, did he go to the Foreign Minister, did he urge the importance of buying an American airplane? Did the President ever send a personal message to Yasu and ask Yasu to buy an American airplane? I have seen no record that that occurred.

Now, maybe that would have been unsuccessful. I don't know. But it did not happen. And so, I am not sure that we can say, just flippantly, that Japan would not ever buy an airplane from us. We did not really try.

But let's assume they wouldn't. The next best deal for us is co-production. After co-production, the next best deal for us would be, very possibly, Japan's own production. Co-development, from the point of view of what we get out of it, is down somewhere at the bottom of this hierarchy. Let me say that co-development was not the initial U.S. objective. Co-development was never something that was discussed in the inter-agency process. Co-development was an ad-hoc reaction, a quick response to Japan's refusal to accept U.S. proposals for co-production.

Now, in a co-development deal, it may be that we get something out of it. It has been said that in co-development, we will get 40 percent of the development budget. Strictly speaking, gentlemen, I do not believe that is the case. In fact, what is guaranteed to us is \$440 million of subcontract work from Mitsubishi Heavy Industries.

Now, \$440 million represents about 40 percent of a budgeted \$1.2 billion development budget. However, analysts in the United States and in Japan do not believe that \$1.2 billion is an adequate budget for this project. In earlier years, this project was budgeted much higher by Japan's Ministry of Finance, and the budget numbers were reduced, many analysts believe, in order to demonstrate that the project could be done at some reasonable economic cost. Most analysts believe that this budgeted amount will, in fact, be more, and that the United States is tied not to 40 percent—my understanding—but to \$440 million, which could turn out to be less than 40 percent. But that perhaps is a quibble. The real point is that we are also told that, as Secretary Carlucci and Senator Byrd this morning said, there is expectation that we will get 40 percent of production.

Secretary Baker was in Japan recently, at the Emperor's funeral, as Senator D'Amato pointed out. He tried to get a commitment from the Japanese Foreign Minister to agree to 40 percent of production, and that commitment was denied in very strong terms.

The fact is that Japanese analysts—again, read the Japanese press; if you want to know what the Japanese think about this, read the Japanese press—Japanese analysts say that the bulk of this work will be done by Mitsubishi. And, indeed, that is quite logical because when we get to 1992 and the prototypes are all done, as Senator Byrd said, we are not going to have much leverage to negotiate a production deal.

It is said that we are going to get technology. It is said that the technology that we give the Japanese is just old technology. I was struck by a contradiction. On the one hand, we are told that this is 10-year-old technology; on the other hand, we are told that the

MOU has to be classified because of the sensitivity of the technology.

The fact is that this is the best technology we have right now. There have been many iterations of the F-16. We are talking about giving them the latest F-16 that we have, and, moreover, there will be more iterations. And whatever comes out of those new iterations will go to Japan.

In fact, General Dynamics is working on the ATF. It is hard to believe that General Dynamics is going to look over the shoulders of Japanese engineers and watch them make a mistake. They are probably not going to do that.

Moreover, let's say that it is old technology. Technology is only old to people who don't have technology. You know, bicycle technology is old. But if I were given the job of designing and building a bicycle, I could not do that on my own. I would love to have a master bicycle designer watch over my shoulder and tell me how to do it. I don't think that we should just flippantly say that our technology is worthless. If it is worthless, we probably should not be giving it to them. I mean, the idea here is to build a good fighter, and you don't do that with bad technology. We know that we are giving significant technology. We know that it is valued at about \$7 billion in current dollars, \$3.1 billion in old dollars. We know what we are giving.

We don't know what we are getting. We are told that we are going to get technology on the co-cured bonded composite wing. We are told we are going to get technology on the phased array radar. The question has been asked many times: What technology are we getting? The answer comes back from the Office of the President's Science Adviser, from the Chief Materials Engineer of the Air Force, from the universities of this country, that in co-cured bonded composite technology, the United States is far in advance.

Now, it has been said that General Dynamics is happy. Yes. If you poll the experts in the United States, they will tell you that the leaders in the United States are Boeing, Lockheed, Northrop, and Grumman. Now, it may be that General Dynamics does not have this kind of technology or the extent of it that it wants, and so they may be happy. But General Dynamics is not the United States.

Charlie Wilson got into trouble when he said, "What's good for GM is good for the country." It is not necessarily the case that what is good for GD is good for the country. Furthermore, it is not clear that this is necessarily good for GD.

The point is that we don't know what technology we are getting. But we know what we are giving.

If you come back to the criteria at the end of this day on this deal, will the United States lead in aircraft, will its comparative advantage in aircraft be the same, greater, or less, I think the answer has to be that it will be less. This is not advantageous to the United States.

Much has been made here of the position of the Commerce Department because that has been the most public. But the U.S. Trade Representative also has not been involved in these discussions. My understanding is the Office of the President's Science Adviser, the Energy Department, the Treasury Department, the Labor

Department, as well as the Commerce Department, are opposed to this deal.

The only people who are for this deal at the moment are the Defense Department and the State Department. Now, why are they for the deal? Well, it is largely because they do not want to have an embarrassment with the Government of Japan. The arguments that we hear are that Japan would be embarrassed, that we would be considered to be unreliable suppliers, and so forth; that Japan has to get this into its budget by March 31. The response to that, Mr. Chairman, is that we have negotiated a number of agreements with Japan—the Semiconductor Agreement, the NTT Agreement, the Auto Parts Agreement—and in all those cases, there have been great problems after the agreement was negotiated in its execution. I do not know that we have to be embarrassed because we review this kind of agreement.

Japan does not have to get this into its budget by March 31. I negotiated on telecommunications 4 years ago, and at that time we were told that we had to complete those negotiations by March 31 because it had to go to the Diet and get into the budget. In fact, we did not conclude the negotiation until May 31, and it went through fine. Indeed, the major impediment to the budget this year is not the FS-X deal, it is Japan's recruit scandal, which may paralyze the Diet for the next 2 or 3 months.

So, I think the point is, Mr. Chairman, if a good deal is there, it is worth taking the time to get a good deal. If this is a good deal, they ought to make the MOU public. They ought to be willing to come down and explain what technology we are giving. It may be that it is a good deal. But at the moment, we don't know that. There has been no evidence adduced to that, and it is, therefore, worth taking the time to get it.

Thank you very much.

[The statement of Mr. Prestowitz follows:]

STATEMENT OF CLYDE PRESTOWITZ
ON THE FSX

In considering whether to approve or object to the currently proposed FSX arrangement, the following questions may be pertinent:

1) DOES THE FSX PROVIDE THE BEST SOLUTION TO JAPAN'S DEFENSE PROBLEMS?

All U.S. observers agree that it does not. DOD experts believe that Japan's current fleet of F-1s and other aircraft are inadequate to meet the Soviet build-up in East Asia. All concur that Japan should really have some new planes now rather than ten years from now when the FSX is expected to enter service.

Moreover, DOD experts also believe that the mission for which the FSX is being designed is unrealistically narrow. It will be primarily an anti-ship weapon developed to be based out of Hokkaido to defend against an invasion from the northern islands occupied by the Soviets. U.S. experts believe a more realistic mission would foresee multiple basing modes and would include dogfight, close air support, and counter air capabilities.

This is what the DOD negotiating team told the Japanese in the spring of 1987. Moreover, DOD insisted at that time that any one of three U.S. planes, the F-16, F-18, or F-15J, could perform this more varied and realistic mission better than the proposed FSX and certainly much sooner.

2) IS THE FSX THE LEAST COSTLY SOLUTION FOR JAPAN'S AIR DEFENSE?

Again, all U.S. observers as well as all Japanese observers agree that the FSX will cost from two to three times as much as buying a U.S. plane. Indeed, leading Japanese analysts have said that the currently proposed Japanese development budget of \$1.2 billion is significantly underestimated. Some believe it is purposely underestimated in order to overcome opposition from domestic critics in Japan.

3) WILL THE FSX BE INTEROPERABLE WITH U.S. AIRCRAFT?

No. DOD experts believe interoperability is highly desirable. Despite this, the FSX will not carry the same weapons as the F-16, many of the parts will be different, and it may not even be capable of being refueled by U.S. tankers.

4) WILL THE FSX PROJECT HELP REDUCE THE U.S. TRADE DEFICIT WITH JAPAN?

No, it probably will exacerbate the deficit. The best way to reduce the deficit would be for Japan to buy a significant number of planes and or parts directly from the U.S. rather than maximizing domestic production.

5) IF THE FSX WILL NOT PROVIDE THE BEST OR THE LEAST COST DEFENSE SOLUTION, AND IF IT WILL NOT REDUCE THE TRADE DEFICIT, WHAT IS ITS MAIN PURPOSE?

According to Japanese press reports as well as statements by Japanese government agencies, the importance of the FSX project is that it will help accelerate Japan's

long planned movement toward world class status as an aerospace manufacturer and will make Japan more self-sufficient as a defense manufacturer.

Since passage of a special aircraft industry promotion law in 1954, the Japanese government has targeted aerospace as a strategic industry in which Japan must achieve a position of autonomy and leadership. A whole series of programs, heavily subsidized by MITI and other government agencies have been carried out since then to move toward this objective.

In 1980, MITI published its vision of Japan's future, and strongly emphasized the necessity of achieving autonomy in high technology and the key role of the aerospace industry for doing so. Since then Japan has redoubled its efforts to achieve world class status and to do as much defense production domestically as possible without regard to cost or to immediate defense requirements.

Beginning as a user and then a licensee of the U.S. Delta rocket, Japan initially built the H-1 rocket as a variation of the Delta. It then moved on to building the H-2 rocket on a completely domestic basis. The same is true in satellite technology. Japan's first satellites were largely built in the U.S. The second generation was mostly Japanese, and by now U.S. content is very low. In each case U.S. manufacturers made an initial sale and licensed technology only to find that at the second and third rounds, the Japanese had moved further and further toward becoming major competitors.

Over the past several years the Japanese government has heavily subsidized Japanese industry participation in building Boeing's 767, in a possible new generation Boeing airliner known as the 7J7 (J for Japan), in a joint venture with Rolls Royce to build Jet engines, and in a domestic effort to build a quiet STOL or vertical take off and landing aircraft.

Recently Japan budgeted about \$500 million for R&D on a hypersonic transport (the so called orient express that would fly New York to Tokyo in two to four hours.). Even more recently, feelers have been sent out with regard to a stealth helicopter. Even as we talk a process very similar to the beginning for the FSX deal is getting under way with regard to Sikorsky's OHX stealth helicopter. And, of course, Japan is planning an extensive network of heliports in the future with concurrent emphasis on developing a domestic helicopter manufacturing capability.

Japan's concentration on achieving self-sufficiency in defense production is indicated by current efforts to develop an indigenous cruise missile and to replace U.S. made Harpoon missiles with the Japanese made XSSM-1B and the XSSM-2.

The FSX is seen as an important project to gain greater defense autonomy and to greatly enhance its aircraft production capability in both the commercial and military spheres. In particular, while Japan has significant aircraft capability now, it has never designed, developed, and integrated an entire new aircraft program from the ground up before. Experience in developing systems integration, avionics, and integrated production are seen as the great benefits of the FSX project. This experience is applicable across a broad range of aircraft.

6) IS SUCH A DEVELOPMENT IN THE AMERICAN INTEREST AND IF NOT WHAT IS?

It is difficult to see how it can be in the American interest for Japan to become a major competitor in the aircraft and missile industries. All U.S. observers agree that the best deal for the U.S. would be an off the shelf buy of all the planes by Japan. If that is not possible, then a partial buy coupled with some licensed production in Japan is next best. After that would be largely licensed production in Japan and at the bottom of the list co-development.

7) WHAT IS THE DIFFERENCE BETWEEN CO-PRODUCTION AND CO-DEVELOPMENT?

Under co-production, a foreign licensee mainly assembles a plan that has already been designed, integrated, developed, and produced in the U.S. The U.S. continues to sell many parts as black boxes and to have a significant share of the content of the plane. In co-development, the key aspects of production such as avionics, systems integration, etc. are done jointly with the U.S. providing much of its hard won experience and technology. CO-development is like having Ivan Lendl as a coach when learning to play tennis.

8) IF DIRECT SALES TO JAPAN OR LICENSED PRODUCTION ARE BETTER OPTIONS FROM THE U.S. VIEWPOINT, WHY ISN'T THE U.S. GOVERNMENT INSISTING ON SOME COMBINATION OF THEM?

Because DOD and the State Department say that it is out of the question to expect Japan to buy a U.S. plane off the shelf and just slightly less likely that Japan would agree to co-produce another U.S. plane under license. Under the assumption that the only choice is between co-development and a totally indigenous Japanese plane, proponents of the FSX deal argue that half a loaf is better than none for the U.S.

9) IS IT TRUE THAT JAPAN WOULD NOT BUY OR LICENSE FROM THE U.S. AND IF SO DOESN'T THAT RUN COUNTER TO THE PRINCIPLES OF FREE TRADE?

We don't know if it is true. It has been said by some at DOD that Japan has not bought an airplane off the shelf from us since 1955. Strictly speaking that is not true since Japan buys some transports and EC2 planes from us. More important, however, is the point that we have never really tried. To understand this point a comparison with Japan is instructive.

When some issue of importance to Japan such as the Toshiba Machine incident or the semiconductor negotiation or the machine tool dispute, Japanese officials make a major effort. The Japanese ambassador is all over the congress and the White House. Lobbyists are hired by the dozens and millions of dollars are spent to influence U.S. public and official opinion. In several cases the Japanese prime minister has directly asked the President to intervene to defend Japanese interests.

During the negotiation of the FSX deal, the U.S. ambassador in Japan was said to be very influential there and to be revered by the Japanese. The President at that time had what was known as the "Ron-Yasu" relationship with Japan's then prime minister. Did either of them lift a hand in support of the proposition that Japan might consider

buying a U.S. plane? The answer so far as I can determine is no. No effort even remotely comparable to those periodically mounted by the Japanese in Washington was ever made in Tokyo to influence Japanese public and official opinion. The assumption that they won't buy is an untested preconception that becomes the determining negotiating factor.

It is argued that Japan is a sovereign nation and that we cannot dictate to it. Of course that is true. But that does not mean that we cannot have influence. We are sovereign too, but Japan greatly influences our policies. In this case we are talking about a situation in which the U.S. has a \$55 billion trade deficit with a nation that is more dependent on it for defense than practically any other country, and further a nation whose prosperity depends very much on untrammelled freedom to operate in U.S. markets in a way that is not possible in any other market of the world including Japan. Surely the U.S. has some potential influence, particularly when the objective facts are strongly in its favor.

Clearly a Japanese insistence on domestic production would be counter to free trade principles. There is no doubt that the U.S. makes the least expensive and best quality airplanes. It has a comparative advantage in aircraft. By refusing to buy from the U.S. Japan would be saying that its market is not open to the very best that America can make. This would be a strange position in view of the fact that DOD buys a great deal from Japan, and in fact, is totally dependent on Japan for such critical devices as ceramic semiconductor packages without which no American missile can fly.

10) ASSUMING, HOWEVER, THAT IN FACT A DIRECT BUY FROM THE U.S. IS OUT OF THE QUESTION ISN'T IT TRUE THAT HALF A LOAF IS BETTER THAN NONE?

That depends entirely on the deal. A half loaf may be better than none, but a quarter of a loaf may not be. Indeed a half loaf may not be either.

11) BUT IF WE DON'T DO SOME KIND OF A DEAL JAPAN MAY INSIST ON BUILDING ITS OWN PLANE. HOW IS THAT IN THE U.S. INTEREST?

Trying at any cost to stop Japan from building a plane on its own should not be the primary objective of U.S. policy. If it is, we put ourselves in an impossibly weak bargaining position. Implicitly we would be willing to give away the entire store if Japan would just give us a few crumbs.

12) WHAT SHOULD BE THE U.S. OBJECTIVE?

The U.S. is presently the world leader in the aircraft industry. That is advantageous and the U.S. should aim to preserve that leadership. Japan is clearly negotiating to achieve the best competitive capability for its industry in the long term. The U.S. should do the same. The object should be to hold or increase the U.S. lead in aircraft and components. If a deal can be struck which will enhance or maintain relative American competitiveness, we should do that deal. On the other hand no deal that will reduce the U.S. lead should be considered. If the consequence is that Japan builds a plane on its own, so be it. That may be the better long term solution for the U.S. and we should bless it.

13) PROPONENTS SAY THE FSX DEAL IS A GOOD DEAL BECAUSE THE U.S. WILL GET 40 PER CENT OF THE DEVELOPMENT WORK, ACCESS TO ADVANCED JAPANESE TECHNOLOGY, AND EVENTUALLY FORTY PERCENT OF THE PRODUCTION RUN WHILE SUPPLYING ONLY OLD TECHNOLOGY TO JAPAN. THEY SAY THE DEAL WILL ENHANCE THE U.S. INDUSTRIAL BASE WHILE CONTRIBUTING LITTLE TO JAPAN'S. WHAT IS WRONG WITH THAT?

The U.S. may not get forty percent of the development work. The deal is for the U.S. to get \$480 million worth of subcontract work from a budget of \$1.2 billion. But if, as many think, the budget is underestimated, the U.S. share would be less than forty percent.

It is not clear what technology the U.S. will get. It is said that Japan has valuable composite and radar technology, but the negotiators at DOD have never said exactly what this is or what we will get. Experts in the Office of the President's Science Adviser and in the Air Force, say that the U.S. has a lead in composite wing technology. Japan has never built a composite wing and the U.S. has built hundreds. One Air Force expert who was only consulted after the deal had been negotiated, said he could not understand why we would want to license our own technology back from Japan.

Moreover, even if there is valuable technology to be gotten, it is supposed to be available to the U.S. under the 1983 agreement making Japanese dual use technology available to U.S. companies. If we cannot get the technology through that agreement, it is doubtful we would get in via co-development.

The U.S. would probably not get forty percent or anything like that of the production run. The agreement does not stipulate any share of the production for the U.S. That will be subject to a new negotiation in 1993 after the prototypes are developed. At that point the U.S. will be in an extremely weak bargaining position. It will have transferred its technology. There will be little incentive for Japan to give away a significant portion of the production run.

The technology the U.S. is providing is identifiable and valuable. It cost about \$7 billion in present dollars to develop. Some say it is only old technology. But it is the best we have. There have been many iterations of the F-16 and there will be more. Japan will get what we have now as well as what comes in the future. Technology is only old if you already have it. For example, bicycle technology is old hat. But if I were given the task of designing a bicycle, I couldn't do it because I don't have that technology. I would love to have the world champion bicycle designer tell me how to do it.

In fact, as things now stand, we are preparing to give the source code on the plane's computer systems to Toshiba. The U.S. has never before provided source code to anyone including Britain, Germany, and France. We are supplying technology on aerodynamics and integration of the plane as well as the production process that also has never been supplied previously to our allies. Recent DOD statements have indicated that we will hold some of this technology back, but there is no process to do that. Similar efforts in the case of the F-15 failed. These projects always have interim reviews and subsequent requests for incremental technology releases are always made. The U.S. habit is to

continue to make these releases, usually on the grounds that by now the requested technology is "old technology."

Moreover, once the project gets underway, it is unlikely that the U.S. would refuse to supply whatever technology is necessary to make the deal a success in the event that Japan's true capabilities in this area are less than advertised.

The bottom line is that the U.S. would clearly give Japan technology that will accelerate its movement toward becoming a world class competitor for an assured payment of only \$480 million. Whether the U.S. would get anything more than the money is unclear. The likely result would be diminution of the U.S. lead and a weaker competitive position.

14) WILL JAPAN BECOME A COMPETITOR IN 747s AND SIMILAR PLANES?

In the near future Japan will not turn full blown 747s. But it will produce more and more parts for airliners and more of those will be high value added parts. Japan could also become a competitor for military sales. This is the inexorable direction of its insistence on a self-sufficient defense industry.

15) IN VIEW OF THE ABOVE WHY DOES ANYONE WANT TO DO THIS DEAL?

Increasingly in order to avoid embarrassing the negotiators on the two sides. It is said that if the U.S. doesn't approve the deal by mid-March Japan will not be able to budget the funds for this year. This is pure nonsense. Japan can do ahead and allocate the funds to Mitsubishi, the prime contractor. Moreover, Japan's Diet may delay all such appropriations this year.

It is also said that if we don't go ahead now, Japan will be acutely embarrassed and will never be able to trust us again.

This too is balderdash. Japanese officials have known for a long time that DOD is not the whole U.S. government and that there is internal opposition to the deal which cannot be concluded without the congress. They know how our congress works.

The truth is that bad deals make for long term trouble for both parties. To make a bad deal simply to save face is a formula for long term disaster. If there is a good deal, it is worthwhile taking the time to do it right. If there is not, the Japanese and others will distrust us all the more for stupidly making dumb deals. They will know that they cannot rely on an ally that can't defend its own interests.

Senator BINGAMAN. Thank you very much.

Mr. Auer, please go right ahead with your statement.

**STATEMENT OF JAMES E. AUER, FORMER SPECIAL ASSISTANT
FOR JAPAN, OFFICE OF THE SECRETARY OF DEFENSE**

Mr. AUER. Thank you, Senator.

Mr. Chairman, I also have prepared a statement which I hope you will consider for inclusion in the record.

Senator BINGAMAN. We will include it in full in the record.

Mr. AUER. I was prepared to summarize my statement. However, Secretary Carlucci made most of the same points, in a way far better than I would. So I would like to summarize my summary and perhaps say a little bit more about some of the details of the history of the process when Japan was deciding what kind of aircraft to procure.

In June 1985, as it turned out, 2 years before the Japanese did announce their decision, U.S. industry, both McDonnell Douglas and General Dynamics, which were interested in the FS-X project, concluded, incorrectly as it turned out, that the Government of Japan had privately decided for domestic design, even though the decision was sometime away. The presidents of those two companies wrote Secretaries Weinberger, Baldrige, and Shultz asking for assistance in reversing that Japanese decision if it had been made.

The defense relations at this time were extremely positive and good. The Government of Japan had agreed to defend its sea lanes out to 1,000 miles as a part of the dialogue that Secretary Weinberger initiated in 1981, and was increasingly obtaining the capability to achieve that mission. Secretary Weinberger, then, having received the letter from the U.S. industries, asked the Japanese Defense Minister, Mr. Kato, if a decision had been made for domestic development. The Japanese minister said no, that it was one of three options under consideration: Domestic development; conversion of an existing aircraft; and licensed production of a foreign fighter.

Mr. Kato, his successor, Minister Kurihara, and Secretary Weinberger tried to discuss FS-X as a defense issue, not as a trade issue. I don't know if the Commerce Department, in response to the letter that Secretary Baldrige got from U.S. industry, discussed it with MITI. They certainly were free to. I know that the subject came up at many inter-agency meetings, from low levels, where people such as I attended, to higher levels that the Secretary attended, and at which the President was present.

DOD reported at many of these meetings that the defense relationship was good and that we felt there was a good chance that the Japanese would ultimately decide for a U.S. aircraft in the case of FS-X. Frequently, at least at the meetings I attended, there was some amount of snickering, cynicism, and skepticism by other departments about the naivete of DOD, that Japan would ever decide for anything other than domestic development because the Japan Defense Agency had such little clout, as compared to a powerful agency like MITI.

In fact, however, in September 1987 Minister Kurihara visited Washington and told Secretary Weinberger that Japan had given

up domestic development in favor of selecting a U.S. aircraft, which they would then improve. The subsequent arrangements to that Japanese decision were negotiated between DOD and the Defense Agency, as far as the government-to-government transfer of classified information, which Japan would purchase, and between General Dynamics and Mitsubishi Heavy Industries, as would be normal in any kind of defense deal.

I believe that those two arrangements—the government-to-government arrangement, as well as the industry-to-industry arrangement—do make sense militarily because Japan's Defense Agency will get a better aircraft to use against a numerically superior Soviet threat in the interests of Japan as well as the United States. I think it makes sense on the trade side because, as Secretary Carlucci pointed out, the defense trade balance between the United States and Japan is 100 percent in favor of the United States. Japan buys \$1 billion a year or more from us and we buy nothing from them, and this arrangement will continue that very favorable arrangement. Finally, it is favorable from the point of view of access to defense technology, which we were trying, unsuccessfully, to get from Japan since the 1970s. Through this FS-X arrangement, we do have procedures in place where we will be able actually to do that.

I would like to relate one personal note that happened back in 1985, when the U.S. industry was convinced that a decision had been made for domestic development. A MITI official, who I had known for some time, asked me in a one-on-one situation if the United States was going to bring pressure on Japan to buy an American aircraft rather than to go into domestic design. I said yes, we are going to pressure you by not pressuring you. We would give Japan the maximum amount of information about U.S. aircraft. We know that Japan has a very large embassy in Washington, which Mr. Prestowitz described, a very large press corps, that the Japanese are very aware of both the military needs that they have, of the trade balance between the United States and Japan, of the political situation on the Hill as well as in Japan, and that this approach would force Japan to make its own decision and to take a responsibility for that decision. This official, with only a half smile on his face, said that that approach is unfair, because that is the worst kind of pressure that we could bring upon Japan. I think that that strategy of Mr. Weinberger is what resulted in the Japanese finally making this decision to give up domestic development and to go for an American aircraft.

That approach is a kind of linkage of trade and defense issues, which I learned about many years ago from Professor Hellmann, for whom I have the highest regard. I believe that that kind of linkage, in a positive way, can be helpful. Defense-to-defense discussions should be professional defense-to-defense discussions. But certainly the Japanese knew that this was a sophisticated issue for them that had defense aspects, that had trade aspects, and that had political aspects. Had we harassed them in public, I think those in Japan who wanted domestic development would have had an excuse on their side to go for that. But, by providing them the maximum amount of information on U.S. aircraft and letting them make their own decision, as they ultimately had to, as a sovereign

government Secretary Weinberger produced the environment that people in 1985 laughed at and said we were naive in thinking that Japan would ever adopt a U.S. aircraft.

I read Professor Hellmann's statement for the hearing today, and he apparently does not think, in this case, that we did link trade and defense issues; however, I do think that we did in a very sophisticated manner, and that we achieved U.S. objectives as a result.

Mr. Chairman, after I prepared my testimony I received a letter from you formally inviting me here. It asked if there were any lessons learned from this that would be a basis for the future. I came up with five of them. First is that Japan's going it alone today or in the future is not inevitable, as U.S. industry felt in 1985, and as many in Government believed then and some believe today.

Second is that access to Japanese technology, which has been a DOD goal since the 1970s, is possible if we try to get it. My understanding, in the case of the F-15 and the F-4, is that we have not gotten a lot of technology from the Japanese. One of the main reasons is because we have not really wanted and tried to get the technology. The U.S. Navy, which does have a very successful MARK 46 torpedo program with the Japanese, which they are co-producing has asked for, tried to get, and has gotten technology. I think under the FS-X deal we will have much more opportunity because there will be much more new Japanese technology in a co-development, which is not the case in a co-production.

The third lesson is that the United States should be as unified in approaching Japan, as many say, correctly, as Japan is in approaching the United States. But I believe that we should also be reasonable, particularly in dealing with a close friend and an ally. Japan is unified, but Japan is not necessarily a monolith. Domestic production on FS-X was wanted by Japanese industry; it was wanted by parts of the Japanese Government; and, in fact, it did not happen. I think it was the U.S. approach which helped to ensure that those in the Japanese Government and Japanese industry who wanted that were not successful.

Fourth, I think that the administration and the Congress should pay much more attention to Japan, as Professor Hellmann would suggest, not to bash them, but to learn possible ways of cooperation between Japan and the United States. In my observation Secretary Weinberger did a lot of homework from 1981 to 1988, and, as a result, outperformed the rest of the administration in dealing with Japan. He got big increases in Japan's defense capability, which is deploying a high technology, air defense, anti-submarine, anti-invasion network, 500 miles either side of Vladivostok, very much in the interest of the United States because it seriously complicates Soviet plans in the Pacific. He got a very big increase in Japanese support for U.S. forces in Japan, some \$2.5 billion, in 1989. With the FS-X deal he did get, again, what he and his predecessors all wanted, access to Japanese technology. He did it with study, with frank talks with the Japanese in private, and with positive encouragement, not bashing in public. If MITI was opposed to co-development of the FS-X, they now are on board. If Japanese industry was opposed, they are now on board.

This brings me to the fifth and final lesson, that a win for the United States is not necessarily a loss for Japan, and vice versa. I believe that domestic development of the FS-X would have been a mistake for Japan. It would have been a mistake for them militarily. They would have had a less capable aircraft. It would have been a mistake for them financially because the potential for cost overruns certainly was there. Japan is not 20 feet tall. It is darn good, but it is not 20 feet tall. Both the United States and Japan can win together in the same situation, as I believe, Mr. Chairman, is strongly the case in this FS-X deal.

I firmly and personally believe that 50 years from now, despite Professor Kennedy's book, the United States will still be the greatest Nation in the world, and I believe that cooperation with Japan will make that optimistic outlook on my chance more likely.

Before I conclude my remarks, Mr. Chairman, I would like to make a few comments on some of the things that came up earlier, the question of production workshare.

Senator BINGAMAN. Go ahead, but try to do it quickly. We are running over and we still have one more panel to hear and questions to ask of you folks.

Mr. AUER. Certainly.

In the case of production workshare, I can certainly understand that from our point of view, it would be nice to have it now, to make sure that it is there. In fact, we told the Japanese that the document would be more salable here if we could get that. They said, as Mr. Carlucci said, this is a development MOU and there will be a separate MOU for production. They would get in serious trouble in their country if they promised to produce something before they had even done the development of it. You can imagine the case here is we would make promises for producing the B-1 or any weapon before we had even completed the development of it. That was their answer. Obviously, again, from the U.S. perspective, that was not as good. But, in my mind, that kind of consideration is not necessarily a defeat for us.

They will spend \$1.2 billion, or more, in developing this aircraft. I would take slight exception to what Mr. Prestowitz said. We will get, it is my understanding, 40 percent of that, whether it is \$1.2 billion, \$2 billion, or \$5 billion. We will get 40 percent of whatever, but after they have spent \$1.2 billion, or \$2 billion, or whatever, it is going to be very, very difficult for them to say that they are now not going to go ahead and produce that aircraft. In any country, when you have spent that amount of money, to say "gee, we made a mistake," and to back away from it is a very difficult thing. They cannot produce one FS-X, Mr. Chairman, if it is the F-16, without having another MOU, which we would have to agree to.

So I think our leverage in 1992, in the production MOU, will be every bit as strong, and stronger than it is now because by 1992 they have no time. They have to replace that aircraft. Domestic design would take too long.

Thank you, sir.

[The statement of Mr. Auer follows:]

STATEMENT OF JAMES E. AUER
DIRECTOR, CENTER FOR U.S.-JAPAN STUDIES AND COOPERATION
VANDERBILT INSTITUTE FOR PUBLIC POLICY STUDIES
VANDERBILT UNIVERSITY

JAPAN'S FIGHTER SUPPORT EXPERIMENTAL (FSX)

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

IT IS A PLEASURE AND AN HONOR TO APPEAR BEFORE YOU TODAY TO EXPLAIN WHY I BELIEVE THAT U.S. PARTICIPATION IN JAPAN'S FIGHTER SUPPORT EXPERIMENTAL (FSX) PROGRAM MAKES SENSE FOR THE UNITED STATES.

FROM 1979 UNTIL SEPTEMBER LAST YEAR, I SERVED AS SPECIAL ASSISTANT FOR JAPAN IN THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE FOR INTERNATIONAL SECURITY AFFAIRS. AS SUCH I FOLLOWED U.S.-JAPAN DEFENSE RELATIONS ON A DAILY BASIS AND PREPARED POLICY PAPERS ON THAT SUBJECT. I AM NOT AN ENGINEER AND WAS NOT IN THE ARMS SALES BUSINESS. MY MAIN FOCUS WAS DEFENSE POLICY.

U.S.-JAPAN DEFENSE RELATIONS WERE PARTICULARLY SUCCESSFUL IN THE 1980S AS JAPAN ASSUMED AN INCREASING SHARE OF THE RESPONSIBILITIES FOR ITS OWN DEFENSE AS A PART OF A DIVISION OF DEFENSE ROLES IN COOPERATION WITH THE UNITED STATES. AS YOU KNOW, JAPAN'S DEFENSE BUDGET MAY ALREADY BE OR SOON WILL BE THIRD LARGEST IN THE WORLD, AND JAPAN IS DEPLOYING A HIGH TECHNOLOGY AIR DEFENSE, ANTI SUBMARINE AND ANTI INVASION NETWORK AROUND THE JAPANESE ISLANDS WHICH SPREAD ABOUT 500 MILES EITHER SIDE OF VLADIVOSTOK AT CLOSE PROXIMITY ACROSS THE SEA OF JAPAN. GIVEN SOVIET MILITARY PRIORITIES IN EASTERN EUROPE AND ON ITS LONG BORDER WITH CHINA, THE PACIFIC CONSTITUTES A POTENTIAL THIRD FRONT. THUS JAPAN'S DEFENSE EFFORTS, TO THE BENEFIT OF THE U.S. AND JAPAN, SEVERELY COMPLICATE SOVIET PACIFIC PLANNING -- THE ESSENCE OF DETERRENCE. SUPPORTING THAT INCREASE OF JAPANESE DEFENSE CAPABILITY TOOK MOST OF MY TIME.

ALSO IN THE 1980S, JAPAN GREATLY INCREASED ITS FINANCIAL SUPPORT FOR U.S. FORCES IN JAPAN. THIS YEAR JAPAN WILL SPEND MORE THAN \$2.5 BILLION ON BASE SUPPORT, OR MORE THAN \$45,000 FOR EACH U.S. SERVICEPERSON STATIONED THERE. U.S. FORCES IN JAPAN LIVE IN VERY ADEQUATE QUARTERS, A CONTRAST TO THE SITUATION IN SOME OTHER FOREIGN COUNTRIES WHERE U.S. PERSONNEL ARE STATIONED. OWING TO A VOLUNTARY JAPANESE PROGRAM, NEW LIVING FACILITIES FOR U.S. FORCES HAVE BEEN CONSTRUCTED THROUGHOUT THE 1980S WITHOUT ANY CONTRIBUTION BY AMERICAN TAXPAYERS. THIS FINANCIAL SUPPORT PROGRAM IS THE MOST GENEROUS THE U.S. ENJOYS ANYWHERE IN THE WORLD.

JAPAN TODAY HAS THREE TIMES MORE DESTROYERS, FOUR TIMES MORE ANTI SUBMARINE WARFARE AIRCRAFT, THREE TIMES MORE SOLDIERS AND MORE FIGHTER AIRCRAFT THAN THE U.S. MAINTAINS THROUGHOUT THE WESTERN PACIFIC. NONETHELESS, THE COMBINATION OF U.S. AND JAPANESE DEFENSE FORCES ARE STILL NUMERICALLY INFERIOR TO SOVIET FAR EAST FORCE LEVELS STATIONED NEAR VLADIVOSTOK. THUS, PARTICULARLY UNTIL MR. GORBACHEV MATCHES HIS RHETORIC ON REDUCTIONS WITH ACTUAL ACCOMPLISHMENTS, IT IS IMPORTANT THAT U.S. AND JAPANESE FORCES DETERRING THOSE GREATER NUMBERS OF SOVIET TANKS, SHIPS AND AIRCRAFT BE TECHNOLOGICALLY SUPERIOR. FSX IS PART OF JAPAN'S PROGRAM TO IMPROVE ITS DEFENSE CAPABILITIES.

ORIGINALLY THE JAPAN DEFENSE AGENCY (JDA) CONSIDERED THREE OPTIONS FOR THE FSX: PROCUREMENT OF A U.S. OR EUROPEAN AIRCRAFT FOR LICENSE PRODUCTION, CONVERSION OF AN EXISTING AIR TO AIR FIGHTER AIRCRAFT (THE F4) TO THE AIR TO GROUND SUPPORT FIGHTER ROLE OR DOMESTIC DESIGN OF A NEW AIRCRAFT. IN JUNE 1985, U.S. MANUFACTURERS CONCLUDED THAT A DECISION FOR DOMESTIC DEVELOPMENT HAD BEEN MADE. THEY WROTE THE SECRETARIES OF COMMERCE, STATE AND DEFENSE ASKING FOR ASSISTANCE IN REVERSING THAT DECISION. TO MY KNOWLEDGE, MR. CHAIRMAN, ONLY SECRETARY WEINBERGER RESPONDED TO THAT REQUEST. HE APPROACHED HIS JAPANESE COUNTERPART, THE MINISTER OF STATE FOR DEFENSE, MR. KOICHI KATO, AND RECEIVED HIS ASSURANCE THAT NO DECISION HAD BEEN MADE AND THAT THE JDA WOULD WELCOME

INFORMATION ON THE MERITS OF U.S. AIRCRAFT. THE SECRETARY'S STRATEGY WAS TO PROVIDE MAXIMUM INFORMATION ON U.S. AIRCRAFT AND TO SHARE OUR EXPERIENCES WITH THE POTENTIAL HAZARDS OF COSTS OVERRUNS AND POOR OPERATIONAL PERFORMANCE INHERENT IN THE DESIGN OF NEW AIRCRAFT. CONTRARY TO THE PESSIMISTIC OUTLOOK OF U.S. INDUSTRY, MR. WEINBERGER BELIEVED THAT IF FSX DID NOT GET CAUGHT UP IN THE TRADE DISPUTES BETWEEN THE U.S. AND JAPAN THAT THE CHANCES WERE BEST THAT THE JDA WOULD ULTIMATELY FOR MILITARY REASONS SELECT A U.S. AIRCRAFT. THIS POINT WAS MADE BY OTHER U.S. DEFENSE OFFICIALS AT VARIOUS INTERAGENCY FORA ON A REGULAR BASIS. TO MY KNOWLEDGE NO OFFICIAL FROM ANY OTHER U.S. GOVERNMENT AGENCY WARNED OF ANY DANGER FROM ALLOWING JAPAN TO LICENSE PRODUCE ANY OF THE CANDIDATE U.S. AIRCRAFT, NOR TO MY KNOWLEDGE DID ANY AGENCY OBJECT TO EARLIER CASES OF LICENSING THE FSX TO JAPAN OR TO EIGHT OTHER COUNTRIES SINCE 1979. THE ONLY CRITICISM OF DOD WHICH I HEARD FROM INSIDE THE GOVERNMENT OR FROM INDUSTRY WAS FOR OUR "NAIVETE" IN BELIEVING THE JDA COULD PERSUADE MITI TO CANCEL DOMESTIC DESIGN AND ALLOW THE JDA TO SELECT A U.S. AIRFRAME.

IN SEPTEMBER 1987, MR. KATO'S SUCCESSOR AS DEFENSE MINISTER, YUKO KURIHARA, VISITED WASHINGTON, D.C. AND, TO THE SURPRISE OF U.S. AIRCRAFT MANUFACTURERS AND MANY IN THE CONGRESS, ANNOUNCED THAT THE JDA WAS GIVING UP PLANS FOR A DOMESTICALLY DESIGNED SUPPORT FIGHTER (FSX) FOR THE 1990S AND WOULD INSTEAD CHOOSE A U.S. AIRCRAFT TO WHICH JAPAN WOULD ADD SOME NEW JAPANESE TECHNOLOGY.

THIS DECISION WAS WELCOMED BY THE WHITE HOUSE, SEVERAL PROMINENT SENATORS AND REPRESENTATIVES, THE SURPRISED U.S. MANUFACTURERS, AND THE PENTAGON. LATE LAST YEAR, JDA AND THE PENTAGON SIGNED A MEMORANDUM OF UNDERSTANDING REQUIRED FOR THE JDA TO PURCHASE U.S. GOVERNMENT OWNED TECHNICAL DATA ON THE F16 AIRCRAFT. MORE RECENTLY, GENERAL DYNAMICS, WHICH MAKES THE F16, AND MITSUBISHI HEAVY INDUSTRIES (MHI), JDA'S PRIME CONTRACTOR, SIGNED A COOPERATIVE AGREEMENT WHEREBY AT LEAST 35 PERCENT OF THE

1.2 BILLION DOLLARS JDA WILL SPEND TO IMPROVE THE F16 WILL BE SPENT IN THE U.S. AT THIS LATE DATE, SOME IN THE U.S. HAVE QUESTIONED WHETHER THE U.S. IS GETTING A GOOD ENOUGH DEAL, AND/OR HAVE CHARACTERIZED THE PROGRAM AS A JAPANESE ATTEMPT TO DEVELOP AN AUTONOMOUS CIVIL AVIATION INDUSTRY. THIS U.S. REACTION HAS MADE IT JAPAN'S TURN TO BE SURPRISED.

THE FSX PROGRAM MAKES SENSE FOR THE UNITED STATES FOR THREE REASONS: (A) MILITARY, (B) TRADE AND (C) TECHNOLOGY TRANSFER. I WOULD LIKE TO ELABORATE ON THE MERITS OF THE PROGRAM AS I SEE IT.

THE SOVIET UNION HAS 2,000 AIRCRAFT IN ITS FAR EAST MILITARY DISTRICTS. AS A PART OF A U.S.-JAPAN DIVISION OF DEFENSE RESPONSIBILITIES AGREED TO IN 1981, JAPAN IS DEPLOYING 200 U.S. DESIGNED F15 FIGHTERS AND 100 U.S. DESIGNED F4 FIGHTERS AROUND JAPAN'S STRATEGICALLY LOCATED ISLANDS, FAR MORE AIRCRAFT THAN THE U.S. AIR FORCE HAS IN JAPAN, KOREA AND THE PHILIPPINES COMBINED AND ABOUT AS MANY FIGHTER AIRCRAFT AS THE U.S. HAS DEFENDING THE CONTINENTAL UNITED STATES. IN THE LATE 1990S, JDA WILL BEGIN DEPLOYING AN ADDITIONAL 100 F16JS AS THE FSX, BRINGING JAPAN'S FIGHTER TOTAL TO MORE THAN 400. BECAUSE OF THE DECISION TO GO WITH A U.S. AIRCRAFT, JAPAN WILL HAVE A MORE CAPABLE FORCE TO USE VIS-A-VIS THE SOVIET THREAT IN U.S. AND JAPANESE INTERESTS THAN WOULD OTHERWISE BE THE CASE IF JDA HAD, LIKE THE EUROPEAN ALLIES OF THE U.S. DID AND AS MHI AND OTHER JAPANESE INDUSTRIES WANTED, OPTED FOR DOMESTIC DEVELOPMENT OF A NEW FIGHTER.

THE FIRST 100 F15S JDA PROCURED UNDER U.S. LICENSE IN THE EARLY 1980S BROUGHT MORE THAN ONE BILLION DOLLARS AND 40,000 MAN YEARS OF U.S. LABOR TO THE U.S. FROM JAPAN. JDA IS PRESENTLY PROCURING A SECOND 100 F15S BRINGING A SIMILAR OR GREATER RETURN. NO U.S. MONEY WILL BE SPENT ON FSX, BUT THE JDA HAS AGREED TO SPEND MORE THAN \$400 MILLION OF THE \$1.2 BILLION JAPAN WILL SPEND IMPROVING THE F16 IN THE U.S. ADDITIONALLY, RETURNS TO THE U.S. SIMILAR TO F15 ARE EXPECTED IN THE 1990S WHEN THE PRODUCTION PHASE IS LIKELY TO BEGIN.

SOME IN THE U.S. MAINTAIN THAT THE TRADE FIGURES WOULD BE EVEN BETTER IF JDA BOUGHT U.S. F16 AIRCRAFT OFF THE SHELF. THIS IS TRUE. BUT JDA IS PROCURING THE AIRCRAFT WITHIN ITS OWN DEMOCRATIC POLITICAL PROCESSES TO COMBAT THE SOVIET THREAT, NOT TO REDRESS THE U.S.-JAPAN TRADE BALANCE. ONE OF THE PERENNIAL ARGUMENTS OF JAPANESE OPPONENTS TO INCREASED JAPANESE DEFENSE EFFORTS IS THAT THE U.S. HAS LITTLE INTEREST IN JAPANESE SECURITY AND IS MERELY TRYING TO SELL WEAPONS. IT IS IMPORTANT TO NOTE HERE THAT THE DEFENSE TRADE BALANCE BETWEEN THE U.S. AND JAPAN, WHICH IS NOT INCLUDED IN TRADE FIGURES, IS ALREADY 100 PERCENT IN FAVOR OF THE U.S. JDA BUYS ONE BILLION DOLLARS OR MORE FROM THE U.S. ANNUALLY, AND JAPANESE INDUSTRIES ARE NOT ALLOWED TO SELL WEAPONS ABROAD AS A MATTER OF GOVERNMENT POLICY. DESPITE SINCERELY BELIEVED STATEMENTS TO THE CONTRARY IN THIS COUNTRY, THE JAPANESE PUBLIC'S AVERSION TO ARMS SALES IS STRONG AND THE POLICY IS UNLIKELY TO CHANGE EASILY OR IN THE NEAR FUTURE. THE FSX DEAL WHICH HAS BEEN NEGOTIATED WILL HELP MAINTAIN OR INCREASE THE STATUS QUO OF THE TRADE BALANCE IN FAVOR OF THE U.S. IN THE 1990S. JAPANESE DOMESTIC DEVELOPMENT OF FSX, THE ONLY REAL ALTERNATIVE, WOULD HAVE NOT CONTRIBUTED TO THE MAINTENANCE OR ENHANCEMENT OF THIS FAVORABLE BALANCE.

TECHNOLOGY-WISE, COOPERATION WITH JAPAN ALSO MAKES SENSE BECAUSE OF THE NUMERICAL SUPERIORITY OF SOVIET FORCE LEVELS I ALREADY MENTIONED: TECHNOLOGY SUPERIORITY IS ESSENTIAL. STATE OF THE ART JAPANESE TECHNOLOGY MAY WELL MAKE THE F16 A BETTER AIRCRAFT. WILL IT BE EXPENSIVE? CERTAINLY IT WILL, BUT I REITERATE THAT JAPAN IS PAYING 100 PERCENT OF THE BILL, AND THE U.S. WILL EITHER GET WHAT TECHNOLOGY JAPAN ADDS FREE -- IF IT'S BASED ON F16 TECHNOLOGY PURCHASED FROM THE U.S. -- OR WE WILL HAVE A RIGHT TO BUY THE JAPANESE TECHNOLOGY IF IT'S SOLELY OF JAPANESE ORIGIN, A RIGHT WE CERTAINLY WOULDN'T HAVE HAD IF JDA HAD OPTED FOR DOMESTIC DEVELOPMENT.

BUT SOME MAINTAIN THAT JAPAN'S TECHNOLOGY IS OF LITTLE

INTEREST TO THE U.S. TO MY KNOWLEDGE BOTH THE DEFENSE DEPARTMENT AND U.S. INDUSTRY ARE BOTH VERY INTERESTED IN THE JAPANESE ACTIVE PHASED ARRAY RADAR TECHNOLOGY. SUPPOSEDLY SOME U.S. INDUSTRIES ARE AHEAD OF JAPAN IN COMPOSITE MATERIALS TECHNOLOGY BUT ARE VERY INTERESTED IN JAPAN'S PRODUCTION PROCESS FOR CREATING A VERY LARGE WING IN A SINGLE PIECE. TO SAY, MR. CHAIRMAN, THAT JAPANESE INDUSTRY IS NOT LIKELY TO DO MANY THINGS OVER THE NEXT 15-20 YEARS WHEN GENERAL DYNAMICS WILL BE WORKING VERY CLOSELY WITH MHI THAT WILL BE OF GREAT POTENTIAL INTEREST OR VALUE TO THE U.S. IS AN EXAMPLE OF A TYPE OF NOT INVENTED HERE (NIH) MENTALITY WHICH HAS BEEN TOO PREVALENT IN THE U.S. IN THE PAST. THE CURRENT UNDER SECRETARY OF DEFENSE FOR ACQUISITION, THE PAST THREE UNDER SECRETARIES OF DEFENSE FOR RESEARCH AND ENGINEERING, AS WELL AS NOTED SCIENTIST, ENGINEER AND FORMER DEFENSE SECRETARY HAROLD BROWN AND HIS TWO SUCCESSORS, SECRETARIES WEINBERGER AND CARLUCCI, HAVE NOTED THE DESIRABILITY OF GAINING ACCESS TO JAPANESE TECHNOLOGY FOR U.S. DEFENSE PURPOSES. MR. CARLUCCI FREQUENTLY MENTIONED JAPAN'S TECHNOLOGY CONTRIBUTION AS ITS GREATEST POTENTIAL FORM OF BURDENSARING. FINALLY FSX IS PROVIDING AN OPPORTUNITY TO MAKE THAT DESIRE A REALITY.

THERE IS SOME ANXIETY IN THE U.S. THAT JAPAN'S TRUE PURPOSE IS TO USE THE TECHNOLOGY IT WILL GAIN FROM THE F16 TO DEVELOP AN AUTONOMOUS CIVIL AVIATION INDUSTRY. JAPAN HAS AN AIRCRAFT INDUSTRY WHICH WAS RESTARTED BY THE ORDER OF THE U.S. OCCUPATION AUTHORITIES DURING THE KOREAN WAR, BUT I DON'T UNDERSTAND WHOSE PURPOSE TO WHICH SKEPTICS OF THE FSX AGREEMENT ARE REFERRING. THE JDA WANTS THE BEST POSSIBLE AIRCRAFT TO USE IN DETERRING THE NUMERICALLY SUPERIOR SOVIET AIR FORCE JAPAN FACES ALONGSIDE THE NUMERICALLY EVEN MORE INFERIOR U.S. FORCES. HOW ABOUT MHI AND OTHER JAPANESE INDUSTRIES? THEY FAVORED DOMESTIC DEVELOPMENT. UNDER THE FSX PROGRAM AS NEGOTIATED, IF JAPANESE INDUSTRIES DO HAVE OR DO DEVELOP TECHNOLOGY SUPERIOR TO THAT OF U.S. INDUSTRY, THEY ARE GOING TO HAVE TO SHARE IT. THE MOST SENSITIVE PARTS OF THE F16, WHICH WAS DESIGNED IN THE 1970S OR BEFORE, ARE ITS AVIONICS WHICH THE JDA

ISN'T BUYING, OWING TO THE JAPANESE TECHNOLOGY BEING ADDED. MANY POINT OUT THAT THE F16 TECHNOLOGY JDA IS BUYING IS GOOD TECHNOLOGY WHICH JAPAN PRESENTLY DOESN'T HAVE. THIS IS ALSO TRUE. BUT JAPAN IS BUYING TECHNOLOGY WE DESIGNED (AND HAVE SUNK COSTS INTO FOR WHICH JAPAN IS ABOUT TO COMPENSATE AMERICAN TAXPAYERS) A DECADE OR MORE AGO WHILE WE WORK ON THE ADVANCED TACTICAL FIGHTER AND OTHER MILITARY AND COMMERCIAL AIRCRAFT OF THE FUTURE -- AND FOR WHICH WE NOW WILL HAVE ACCESS TO JAPAN'S NEWEST AND FUTURE DEVELOPMENTS.

SOME STATE OR IMPLY THAT THE U.S. COULD HAVE GOTTEN A BETTER DEAL IF THIS HAD BEEN MADE A TRADE ISSUE RATHER THAN DISCUSSED BETWEEN THE PENTAGON AND JDA. THIS IS THEORETICALLY POSSIBLE, BUT I DOUBT IT. WE CERTAINLY COULD HAVE HAD THE DEAL WHICH THE EUROPEANS OPTED FOR AND WHICH JAPANESE INDUSTRY WANTED, DOMESTIC DEVELOPMENT. THAT WOULDN'T HAVE HELPED MILITARILY AS MUCH -- THE JAPANESE DOMESTIC DESIGN WOULD NOT LIKELY HAVE BEEN AS GOOD AS AN ENHANCED F16. THE TRADE BALANCE WOULD NOT HAVE BEEN HELPED BY DOMESTIC PRODUCTION, AND WE WOULD NOT HAVE HAD ACCESS TO JAPANESE TECHNOLOGY. IF IT HAD BEEN 1947 NOT 1987, WE COULD HAVE ORDERED JAPAN TO BUY U.S. AIRCRAFT OFF THE SHELF. SAYING JDA SHOULD HAVE DONE THAT IN 1987 MAY MAKE US FEEL GOOD, BUT IT DOESN'T REFLECT REALITY: U.S. POLICY WAS SUCCESSFUL IN MAKING JAPAN A DEMOCRACY, AND THE DESIRE TO KEEP WORKERS EMPLOYED IS PRESENT IN JAPAN'S DIET AS IT IS IN THE U.S. CONGRESS. WHEN JDA BUYS A SMALL NUMBER OF AIRCRAFT OR OTHER WEAPONS SYSTEMS, IT BUYS THEM OFF THE SHELF -- ALMOST ALWAYS FROM THE U.S. WHEN LARGE NUMBERS ARE INVOLVED, POLITICAL INTERESTS REQUIRE SOME WORK AT HOME -- BUT AGAIN THE U.S. USUALLY GETS A LARGE SHARE. AS A RESULT OF BOTH OF THESE PROCUREMENT METHODS, WE HAVE THE MORE THAN ONE BILLION DOLLARS PLUS TO ZERO DEFENSE TRADE SURPLUS WITH JAPAN TO WHICH I REFERRED.

LAST YEAR JDA WANTED TO PURCHASE THE AEGIS AIR DEFENSE SYSTEM, HIGHLY EFFECTIVE AGAINST THE SOVIET AIR THREAT, OFF THE SHELF FROM THE U.S. SOME IN WASHINGTON THEN SAID JAPAN'S TRUE INTENTION WAS TO GET ACCESS TO THE U.S. AIR DEFENSE TECHNOLOGY. BUT MANY OF

THESE SAME U.S. SOURCES SAID JDA COULD BUY THE AEGIS SYSTEM IF IT ALSO PURCHASED THE HULL WHICH BOTH AMERICAN AND JAPANESE SHIPBUILDERS ARE HAVING PROBLEMS GETTING ORDERS FOR OF LATE. A BILL WHICH WOULD HAVE CANCELED THE SALE WAS DEFEATED IN THE SENATE BY A VOTE OF 70 TO 20. THE HOUSE DID NOT OBJECT TO THE SALE.

JDA IS PRESENTLY PLANNING A 1991-1995 DEFENSE PROGRAM WHICH COULD INCLUDE MANY U.S. SYSTEMS LIKE AWACS, REFUELING AIRCRAFT, MORE AEGIS SYSTEMS AND OF COURSE THE FSX. WERE I A JAPANESE DEFENSE INDUSTRIALIST, I WOULD CERTAINLY HOPE THE U.S. CONGRESS WOULD DISRUPT THE TRANSFER OF F16 TECHNOLOGY DESPITE JAPAN'S STATUS AS A CLOSE ALLY. WHAT BETTER ARGUMENT COULD I HAVE FOR URGING JDA TO GIVE UP ON FUTURE PROCUREMENT FROM THE U.S. WHICH JAPANESE COMPANIES COULD ARGUE CAN'T BE COUNTED UPON AS A RELIABLE SUPPLIER? JAPANESE INDUSTRIES OF COURSE FAVOR DOMESTIC DEVELOPMENT.

SOME IN JAPAN'S INDUSTRY MIGHT HOPE FOR A DAY WHEN JAPAN'S CIVIL AVIATION INDUSTRY IS AUTONOMOUS. EVEN THERE, HOWEVER, MANY ARE COMING TO UNDERSTAND THE BENEFITS OF COOPERATION AS OPPOSED TO COMPETITION. ALSO THE FSX PROGRAM AS IT PRESENTLY STANDS DOES NOT ADVANCE THE GOAL OF MAKING JAPAN AUTONOMOUS. TO THE CONTRARY, THE FSX DEAL AS IT PRESENTLY STANDS TIES U.S. AND JAPANESE INDUSTRIES TOGETHER FOR THE NEXT 20 YEARS, TO THE BENEFIT OF BOTH, AND EVEN MORE SO TO THE BENEFIT OF U.S. AND JAPANESE CITIZENS, BOTH AS TAXPAYERS AND AS HUMAN BEINGS DESIROUS OF PROVIDING AN EFFECTIVE DEFENSE.

IN CONCLUSION, MR. CHAIRMAN, I WOULD LIKE TO MAKE ONE MORE COMMENT ON A UNIFIED U.S. POLICY VIS-A-VIS JAPAN. AS I UNDERSTAND, OWING TO THE PROVISIONS OF THE 1989 DEFENSE AUTHORIZATION ACT AND THE 1988 OMNIBUS TRADE LEGISLATION, THE COMMERCE DEPARTMENT AND USTR MUST BE FORMALLY INVOLVED IN DECIDING FUTURE ARMS SALES. PERSONALLY I WELCOME THEIR PARTICIPATION AS THEIR INPUT WAS ALWAYS WELCOME BEFORE AT THE POLICY, TECHNICAL AND AT THE ECONOMIC ANALYSIS LEVELS AT DOD. MY COUNTERPARTS AND MY BOSSES AT THE PENTAGON HAD FREQUENT IF NOT DAILY CONTACT WITH THESE OFFICIALS

AND I BELIEVE EVERYONE'S GOALS OF ADVANCING U.S. INTERESTS ARE CONGRUENT.

I HOPE THAT THIS MORE EXPLICIT COORDINATION PROCESS WILL BE EVEN MORE BENEFICIAL THAN PREVIOUS U.S. POLICY WHICH HAS VERY SUCCESSFULLY RAISED THE ECONOMIES OF A DEVASTATED WESTERN EUROPE AND JAPAN TO STABILITY AND PROSPERITY. SOME WHO READ PROFESSOR KENNEDY'S INTERESTING BOOK SEEM TO THINK THAT IN HELPING EUROPE AND JAPAN THE U.S. HAS SOWED SEEDS OF ITS OWN FAILURE. I BELIEVE THAT IS VERY WRONG, AND I BELIEVE THAT FEW IF ANY ENLIGHTENED JAPANESE HOPE TO SEE THE U.S. FAIL. I STRONGLY BELIEVE THAT 50-100 YEARS FROM NOW THE U.S. CAN AND WILL STILL BE THE WORLD'S LEADING ECONOMIC DEMOCRACY AND WORLD POWER AND THAT COOPERATION WITH JAPAN AND OTHER FREE MARKET ECONOMIES MAKES SUCH AN OPTIMISTIC SCENARIO MORE LIKELY.

I BELIEVE THAT YOUR EFFORTS, MR. CHAIRMAN, AND THOSE OF OTHERS, TO PROMOTE GREATER U.S. COMPETITIVENESS AND MORE ACCESS FOR THE U.S. ABROAD RATHER THAN TRYING TO LIMIT AND MANAGE TRADE TO THE DETRIMENT OF THE U.S. ARE VERY ENCOURAGING.

THANK YOU MR. CHAIRMAN.

Senator BINGAMAN. Thank you very much.

Dr. Hellmann, we are very pleased to have you here. Thank you for coming from Washington State to testify. Please, proceed.

STATEMENT OF DONALD C. HELLMANN, PROFESSOR, INTERNATIONAL STUDIES AND POLITICAL SCIENCE, HENRY JACKSON SCHOOL OF INTERNATIONAL STUDIES, UNIVERSITY OF WASHINGTON, SEATTLE, WA

Dr. HELLMANN. Thank you.

It is a pleasure to be here, and I, too, have a prepared statement that I would like placed in the record.

Senator BINGAMAN. It will be included in the record.

Dr. HELLMANN. Thank you.

My agreement to come here at some effort really is the culmination of a kind of personal odyssey for me. I have been involved in studying Japan and East Asian foreign policy for most of my professional career, and I have testified before the Congress, the White House, and various places in Washington during that time more or less continuously on Japanese policy.

I must say that I agree with Senator Wallop's earlier remarks, that it is very difficult to go into the details of an agreement which

we do not even have in front of us, and to discuss an MOU which I have not seen.

However, my reason for being here is to take a slightly different tact. My reason for objecting to the FS-X agreement in its current form relates to a number of things that Mr. Prestowitz has said. It also relates much more fundamentally to the security relationship between the United States and Japan. As a way of setting the tone for my beliefs, I would like to quote from one of my favorite authors, the late Barbara Tuchman:

Wooden-headedness, the source of self-deception, is a factor that plays a remarkably large role in government. It consists in assessing a situation in terms of preconceived fixed notions, while ignoring or rejecting any contrary signs. It is acting to wish, while not allowing oneself to be deflected by facts. It is epitomized in a historian's statement about Philip II of Spain, the surpassing woodenhead of all sovereigns: "No experience of failure of his policy could shake his belief in its essential excellence."

Despite a prolonged and largely successful military alliance and the increasing integration of the American and Japanese economies, U.S. policy toward Japan must be fundamentally altered or future historians may have a 20th century rival for Philip II.

As the FS-X agreement illustrates, the fault may lie less with underpate leaders and more with inadequacies and confusion in the way foreign policy decisions are made in Washington and the lack of a concept of national security that is economic as well as military.

One feature of this process relevant to the issue under consideration is our over-developed capacity to make and manage security policy and our grossly underdeveloped capacity to incorporate effectively related issues of technology and trade. This is a legacy of the institutional arrangements in the executive branch established in the early years of the cold war, when our overriding strategic concern was the military containment of the Soviet Union.

Curiously, a mirror image of this exists in Japan. There, the consensus on national strategic purpose has been economic growth and the state, with the Ministry of International Trade and Industry and the Finance Ministry serving as the "economic general staff," which has devised and implemented a comprehensive and long-term industrial policy. Within this framework, in Japan, it is utterly inconceivable that any major initiative regarding the transfer of technology, such as the FS-X, would not receive priority consideration in terms of its industrial and commercial applications, not simply in terms of its specific military role.

As all of you are well familiar, the defense budget in Japan is not linked to specific strategic purposes but is defined by basically three groups: the Ministry of International Trade and the Finance Ministry in terms of budgetary considerations; the Prime Minister's office in terms of what the Americans demand at a given time; and the Japanese assessments of the potential mood in the United States. It is not linked to specific strategic purposes. It is very little more than a weapons procurement program, the broad outlines of which are defined by the United States and our operations together.

Now, my general objection to our policy toward Japan is not that it has not worked. On one level, it has been the most successful

component of American foreign policy. Certainly, if I were sitting in your positions, or in the White House or the executive branch, given some of the problems we have had in the past in our foreign policy, I would do precious little to disturb that relationship. Nevertheless, there are stubborn and fundamental problems invoked. They can be summarized by an image I have used in many of my past writings, what I call an international greenhouse, which was made in America.

The international greenhouse has really allowed Japan to grow, to flourish, without being exposed to the pressures of power politics, of defense budgets, of the kinds of things that you people on this committee, certainly the Armed Services Committee, deal with all the time. Japan is a country run by technocrats. Its leaders are not noted for their political flair—Mr. Nakasone may be one modest exception—but, rather, by their distinguished capacity to operate. It is the kind of society that can only live in a greenhouse. As long as that greenhouse exists, they will continue to flourish.

Now, the current issue is, can the greenhouse continue to exist forever? Within the greenhouse syndrome, Japan has become the largest creditor nation in the world and we have become the largest debtor nation. They have become the model for economic growth around the world, while we are mired in our own troubles. The questions are: can the greenhouse continue in its present form? Can our policy be extended into the future without modification? According to the testimony of Mr. Carlucci and others the answer is yes, it can and it should. My position is that clearly it cannot—not because the policy has not or is not working well, but because there are fundamental structural problems involved in it. This may be illustrated with specific reference to the FS-X agreement. Again for the sake of brevity, I will read a very short excerpt from my testimony.

By focusing on the FS-X agreement as an issue of technology transfer and the long-term implications for the competitiveness of the aerospace industry in the United States, short shrift has been given to the most critical issue underlying the agreement, the fundamental security relationship between the two most economically powerful nations in the world. What is truly astounding about the FS-X agreement is that a dispute over the transfer of some of the most sophisticated and arcane creations of 20th century civilization, aerospace technology, occurs against the backdrop of a 40-year-old, one-sided, security relationship, in which the most economically dynamic country in the world is effectively a defense satellite of another state. Moreover, in the course of the government-to-government negotiations and in the current debate, the question of a fundamental adjustment of this security relationship was not a central consideration.

Even though there are groups within Japan which strongly favor the independent development of the FS-X, notably some elements in the JDA, the aerospace companies, obviously, and some right-wing politicians, there is only the remotest chance that Japan would proceed if the United States said that such an action would provoke a fundamental review of the bilateral defense relationship. I mean this in the strongest terms, gentlemen. I cannot imagine the Japanese proceeding if the United States seriously, and not

flippantly, suggested that if they proceeded, we would undertake a fundamental review. If we did that, of course, we would have to have a clear notion of what we wanted, which we do not now have. This will be one of the lessons that I hope comes out of the FS-X debate.

In any event, a decision by Japan to proceed to build its own fighter over the explicit objections of the United States would be far more significant as a declaration of political-security independence than as a declaration of technical independence. In the context of the Japanese political scene, a declaration of technical independence would be a trivial point.

Many people have talked about the technical and financial ability of Japan to proceed in aerospace, and several experts (notably several from MIT) have been quoted in the *National Journal* and other publications as saying the issue is really whether we get on the train or not, because the "aerospace" train is going and you may as well join them. I think that this is a gross over-simplification of the issue, which gives up the bargaining position of this country before it actually gets involved in the negotiations.

I was surprised and remain surprised about the intensity with which this FS-X issue has exploded onto the American political scene. It is the kind of issue which specialists like me worry about, but very few other people pay much attention. A clear explanation remains elusive, but it may have something to do with what has been going on in Washington over the last several weeks and months during the transition between administrations. However, if I had been picking issues about which I expected a congressional explosion, other than trade, I would not have guessed that it would have been the FS-X. I would have assumed that it would have been the issue of aid, a subject on which there was agreement in the summit meeting between the President and Mr. Takeshita in January.

The issue of Japan's role in foreign aid, far more than the FS-X, strikes me as being, generously put, a bizarre bilateral policy. The idea that Japan should give aid to countries as a replacement for expenditures on defense, a position endorsed, I might add, by former Secretaries of State Cyrus Vance and Henry Kissinger, has a quaint, almost Alice in Wonderland quality to it. In the first place, it is inherently unviable. You cannot have an international division of labor in which the United States, or anybody, becomes the cop and someone else becomes Santa Claus. That is exactly the position that we are putting ourselves in.

Second, the Japanese concept of aid is fundamentally different from what ours is. Our concept of aid—and I might add that of the Soviet Union—is political. We do it for human rights, to contain communism, and various other things like that. Their commitment is commercial and economic. And in encouraging them to give aid to China, for example, we are basically encouraging them to position themselves in the Chinese market in the name of furthering the defense of the United States. I cannot understand how anybody, even remotely familiar with how Japanese aid programs work in the past or future, could possibly endorse this. And yet, this was presented as a matter of course in the recent summit.

My final point relates not to FS-X, but to what I allude to in my paper as an article 51 problem. Article 51 in the U.N. Charter is the article on which the Self-Defense Forces of Japan are based. The Self-Defense Forces are legitimated by appeal to the Self Defense Forces Act of 1954. The Japanese argue under article 51 that they cannot dispatch troops abroad or engage any in collective security agreements for constitutional grounds. This is simply in error.

To give you an illustration of my frustration, which is of many decades in duration, when the *Stark* was attacked in the Persian Gulf, the Japanese Foreign Ministry said in this city Japan could not participate in the multilateral military force because of constitutional limitations. Subsequently, Prime Minister Nakasone changed that and said well, even though it is constitutional we are not going to go. Gentlemen, it is constitutional. Whether Japan engages in a collective security agreement or whether they dispatch troops is a matter of policy, to be decided by the Diet. It is not a matter of legal proscription.

Astonishingly, not one person in Congress or the administration rose to challenge on this issue. I was dumbfounded. I would have thought that that issue, particularly given the fact that we were engaged in the forward deployment of American troops in a military action, would have aroused someone to investigate the seriousness of the issue.

In conclusion, I would like to say that it appears that the FS-X really is a threshold on American policy toward Japan. I am delighted to hear not only Secretary Carlucci but many members of this panel, even those of differing opinions on the agreement, say that it is the occasion for a serious review of our relationship with the Japanese. That is what it should be.

I would hope that some way was found to coordinate not just with the Department of Commerce, but with all agencies and departments engaged in trade, economics, and technology, in the formulation of our national security policy. I respectfully demur from Secretary Carlucci who said that he would vigorously oppose people outside the Pentagon from direct participation in the making of national security policy. Obviously, it would be inappropriate for someone from Commerce to challenge Defense Department policy on military grounds. However, I do not think that was anyone's intention. Rather, it is how to incorporate economic considerations into defense policy. No one yet has the formula. I submit that what is needed is to go back to the drawing board, much as we did in the years immediately after World War II, where all of these institutions were created to deal with security, and start anew to establish how we can now responsibly address the new challenge.

This leads to a second point. We are participating in what President Bush has called micromanagement of foreign policy, which he deplored as being unsuitable. I must say that I, too, deplore micromanagement of foreign policy as an appropriate way to establish our role in the world. However, I understand the need for this hearing, I respect it, and I am an enthusiastic, not just willing, participant because I believe the executive branch in this particular case deserves to be called on what it has done. I think the lessons

are not just simply the agreement, but the process by which it was made.

Finally, I would like to make a plea that a serious attempt be made to review not just the procedures by which decisions are made on technology transfer and the like, but the structure of our fundamental relationship in Asia in general and with Japan in particular.

I was in Vladivostok in early October, one of a few Americans invited to the opening of that city for the first time. I subsequently went to Moscow and discussed at some length issues of defense, particularly as they bore on Japan and Asia. I was very shaken by that trip because it showed how a failed society, a society which, in its own words, is standing on the abyss, imaginatively trying to deal with the revolutionary changes that have occurred in Japan and in East Asia. If I could find any evidence of that occurring here in Washington, I would be much relieved.

The Japanese in the later 1970s, again, in the early 1980s, marshalled 300 to 400 of the best and the brightest to reconsider Japan's place in the 21st century.

Who is doing that in this country? In particular, who is doing it in a way that makes it operational in the departments of government, or accessible to the staff of the committee members in the Senate and the House? Again, I see no evidence of that.

I submit to you, gentlemen, that the FS-X will be just the first in a series of crises unless we get our priorities in order and our institutions for decision-making regarding defense, technology, and our general purposes in Asia clarified in a way that allows us to be flexible in the light of new international realities.

Thank you.

[The statement of Dr. Hellmann follows:]

Statement of Donald C. Hellmann
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 Henry Jackson School of International Studies
 University of Washington, Seattle

The United States-Japan Agreement
 Regarding the FS-X (Fighter Support Experimental)

Gentlemen, it is with pleasure and appreciation that I am here today to share with you my views on the FSX agreement and its connection to Japanese-American relations more generally. For the record, as a scholar and public policy specialist, I have spent some twenty-five years teaching, writing, and lecturing on the Japanese political-economy and American policy toward Asia. Since the early 1970s, I have been one of the few specialists on Japan that has consistently urged a basic revision of bilateral relations in terms of a fresh long-term strategic vision. In my view, it has long been clear that our policy should link economics and defense to assure better management of the alliance and to facilitate a greater congruence between Japan's economic capacities and its military role. Had even modest change in this direction been made, it is doubtful that the FSX agreement would have been made in its current form, a form that clearly does not take fully and realistically into account America's long-term economic as well as military interests in line with the vastly augmented role of Japan in the world. In this fundamental sense, the FSX agreement is simply another footnote to the confusion surrounding what is appropriately now considered side-by-side with Soviet policy, the most important bilateral relationship for the United States.

Before turning to the FSX decision, it is essential to make clear the broad context in which it occurred. To this end, it seems appropriate to open with a quotation from The March of Folly by the late historian, Barbara Tuchman.

Wooden-headedness, the source of self deception, is a factor that plays a remarkably large role in government. It consists in assessing a situation in terms of preconceived fixed notions while ignoring or rejecting any contrary signs. It is acting to wish while not allowing oneself to be deflected by facts. It is epitomized in a historian's statement about Philip II of Spain, the surpassing woodenhead of all sovereigns: "No experience of failure of his policy could shake his belief in its essential excellence."

Despite a prolonged and largely successful military alliance and the increasing integration of the American and Japanese economies, United States policy toward Japan must be fundamentally altered or future historians may have a twentieth century rival for Philip II. As the FSX agreement illustrates, the fault may lie less with dunderpate leaders and more with inadequacies and confusion in the way foreign policy decisions are made in Washington and the lack of a concept of national security that is economic as well as military. One feature of this process relevant to the issue under consideration is our overdeveloped capacity to make and manage security policy and our grossly underdeveloped capacity to incorporate effectively related issues of technology and trade -- a legacy of the institutional arrangements in the executive branch established in the early years of the cold war when our overriding concern was military containment of the Soviet Union. A mirror image of this situation exists in Japan. There, the consensus national strategic purpose has been economic growth and the state (with the Ministry of International Trade and Industry and the Finance Ministry serving as the "economic general staff") has devised and implemented a comprehensive and long term industrial policy. Within this framework it is inconceivable that any major initiative regarding the transfer of technology such as the FSX would not receive prime consideration in terms of its industrial and commercial applications -- not simply in terms of its specific military role. The flaws in the FSX agreement are primarily rooted in the failure to deal with both the dynamics of

the internal Japanese political-economy (which seems to have replaced the Soviet Union as the new "black box" for American policy) and with the implications of the huge ongoing changes in the Asian and global political economies for America's strategic interests. To break out of our preconceived notions about the world, the Philip II syndrome, it is first necessary to see Japan clearly.

Japan has become a global economic superpower, of proportions that are rarely fully understood. Its gross national product has been larger than that of the Soviet Union for several years and its per capita GNP is more than twenty per cent larger than that of the United States. Moreover, despite vastly inferior natural resources, Japan has highly effective government-private sector institutional arrangements to maximize economic growth, a lead in many high technology areas that provides momentum to sustain rates of growth greater than the U.S. and the Soviet Union. It is the Japanese model, not American capitalism or Soviet socialism, that is the most admired international prototype for economic growth. Japan has become the world's foremost financial power: the largest international creditor, with growing overseas investments; an aid program that in 1989 will be the world's largest; a strong banking system and an extremely high personal savings rate (four to five times the rate in the United States). At the same time, the United States has stumbled with huge deficits in its national budget and in trade, the largest (and growing) international debt of any nation in modern times, a fragmented and shaky banking system, the lowest rate of domestic savings of any industrialized nation and a serious problem of international competitiveness in many industrial sectors. The one-sided nature of the relative economic performance of Japan and the United States over the past decade and a half has also seen the American and Japanese

economies become ever more deeply intertwined.¹ The sheer size and breadth of interdependence has made the bilateral relationship the largest single factor in maintaining global economic stability; at the same time, it has exacerbated the problems of managing bilateral macro-economic relations and raised doubts about the long-term viability of the one-sided American dominated security relationship.

In the area of security, the role of Japan has been extremely modest. As elaborated in the National Defense Program Outline adopted in 1976, the strategic aim is narrowly defined to involve territorial defense of the home islands.² Even under this restricted goal, the military role of Japan is seen as simply a supplement to the conventional military capacities of the United States. Japan is sheltered by the American nuclear umbrella, but unlike NATO nations, under the so-called three Non-Nuclear Principles, Japan will not permit trans-shipment or deployment of the American nuclear weapons used to provide an umbrella in the Western Pacific. Because of the American alliance and these highly restricted strategic aims, Japan spends (and has spent) only one per cent of her GNP on defense -- an amount that in proportional terms is less than twenty five per cent of the average annual outlay of any member of NATO.³ Japan not only eschews a regional security role, but alone among the major industrial powers has not participated in the United Nations peace-keeping activities or made a military contribution to the multilateral efforts to insure access to Middle Eastern oil.

1. See Robert Gilpin, The Political-Economy of International Relations (Princeton, 1987) for elaboration on the basic transformation that has occurred in the 1980's in the global political economy as well as the extreme economic interdependence in the bilateral relationship -- which he partly labels the Nichibei economy.

2. Defense Agency of Japan, Defense of Japan, 1988 (Tokyo: The Japan Times Inc., 1988), pp. 259-263. Under continuous American pressure since 1981, Japan is now gradually expanding its responsibilities to include securing the sea lanes 1,000 miles from its shores.

3. The average annual outlay of NATO members since the inception of the alliance has been 4-4.5% of GNP. Currently, the average is about 3%.

This profound and extreme incongruity between the enormous and growing economic power of Japan and its highly restricted role in the management of both the economic and political security elements of global affairs can be extended into the future under only one condition. The United States must remain willing and able to sustain the international greenhouse which has insulated Japan from the political, psychological, and economic costs and responsibilities associated with an orthodox national role in global defense arrangements. This greenhouse has also allowed Japan to avoid a role of economic leadership broadly congruent with its international economic capacities. Both the capability of the United States to maintain the greenhouse and the desirability of doing so, are now open to question. Clearly, it defies both history and common sense for the world's largest debtor nation effectively to underwrite the security of the world's largest creditor and in the future, security issues must be linked with economic issues in Japanese-American relations, especially in light of fundamental changes that have occurred in the strategic landscape of East Asia.

Most analyses of U.S.-Japan defense relations do not go much beyond an updated inventory of Japanese military capabilities, a pious reiteration of the domestic political and constitutional limitations in Japan to any change in the status quo, an enumeration of the deep fear felt in all East Asian nations (and the Soviet Union) at the prospect of a "rearmed Japan," and dire warnings by American statesmen and scholars about the intractability of the bilateral alliance if Japan were to expand its defense spending to the level of any Western European nation, and au courant, the need to create " ... a strategic partnership based on a division of labor in which the Japanese assume major economic burdens to balance American military burdens."⁴ These

4. George R. Packard, "The Status and Power of Japan," The National Interest, 6, Winter 1986/87, p.45.

pronouncements make up what can be called the "old myths" about United States-Japan security relations. Most of these assumptions and hypotheses that have guided the bilateral relationship in the past are either wrong or in desperate need of re-evaluation. Without such a re-evaluation and appropriate policy adjustments, the bilateral alliance can at best bump from one crisis to another with the policy agenda set by the drift of international events and the twists and turns of domestic politics in each nation. The FSX agreement is precisely this sort of crisis.

By focusing discussion of the FSX agreement on the issue of technology transfer and the long term implications for the competitiveness of the aerospace industry in the United States, short shrift has been given to the most critical issue underlying the agreement, the fundamental security relationship between the two most economically powerful nations in the world. What is truly astounding about the FSX agreement is that a dispute over the transfer of some of the most sophisticated and arcane creations of twentieth century civilization (aerospace technology) occurs, against the backdrop of a forty year old one-side security relationship in which the most economically dynamic country in the world is effectively a defense satellite of another state. Moreover, in the course of the government-to-government negotiations and in the current debate, the question of a fundamental adjustment in this security relationship was not a central consideration. Even though there are groups within Japan which strongly favor the independent development of the FSX (notably the JDA, the aerospace companies and some right-wing politicians), there is only the remotest chance that Japan would proceed, if the United States said that such an action would provoke a fundamental review of the bilateral defense arrangements. The risks involved in Japan moving toward a more independent defense posture in the wake of a breakdown in relations with the United States is politically undigestable to the Japanese establishment and would involve huge domestic

political risks as well as international economic and political uncertainties. This would seem an attractive way to proceed since it is prima facie clear that the enormous changes in power and policy occurring in the Western Pacific assure that the future can not simply be an extension of the past. Sadly, this option makes sense only if the United States has in hand a clear sense of priorities regarding its long-term strategic goals in the region. Because we do not, the negotiation of the FSX agreement and of future agreements involving trade and defense will evolve without the United States dealing from its position of greatest strength. Even more sadly, while the Japanese government has regularly mobilized the "best and brightest" to produce proposals about the role of Japan in the twenty-first century (that then become integral to the operations of the government), the fragmented and amorphous gestures made by the United States in this regard give scant hope for change. What is needed and is conspicuously absent is the creativeness statesmanship that was shown by American leaders after World War II in creating the world order in which Japan has flourished.

If, as was done in the current agreement, the security commitment of the United States to defend Japan and the Western Pacific is assumed to remain unchanged for the foreseeable future and for political reasons is not leveraged as part of the bargaining process on matters such as the FSX, (and our victims of our own hubris in the manner of Philip II) there are still ways in which we can affect the outcome. The Japanese (like the Europeans and the Taiwanese) obviously have the technical and industrial capacity to build some version of a high performance fighter and may, in the long run, develop an aerospace industry on their own. How, when, at what costs and on what projects they proceed, however, are matters which the United States can profoundly influence.

To assert the inevitability of Japanese aerospace industry and suggest that the only question is whether "we get on the train

or not" is to grossly oversimplify the issue and to misread the dynamics of Japanese domestic politics. A decision by Japan to proceed to build its own fighter over the explicit objections of the United States would be more significant as a declaration of political-security independence than an issue of technical independence. Because of the scope of interdependence between Japan and the U.S., Tokyo is in a weaker position to move than other countries that have done so.

Perhaps the most incomprehensible aspect of the current agreement is the failure of the American negotiators to include from the outset representatives from the departments and agencies involved in the making of our economic foreign policy (eg. Department of Commerce, the Office of the U.S. Trade Representative) so that input from them and from the aerospace industry could be implemented in a coordinated way as a central part of our negotiations, every step of the way.

Failure to do this is at the core of the current controversy and has profound implications for the ability of the United States to formulate future coherent and comprehensive policy regarding Japan on matters that cut across defense and economic issues. Not only does the FSX controversy lay bare the weaknesses in policy leadership within the executive branch, it provides the occasion for Congressional micromanagement of foreign policy of the sort in which we are now engaged. To be sure, Congress must have a role in foreign policy and I am a willing and committed witness to this committee, but President Bush was right in his recent speech to the Congress in asserting that in the long-run, this is not a viable way to fine tune foreign policy. Alas, it is the failure of the executive branch to build broad consensus regarding the FSX that has led to the current divisive public controversy which has made a truly satisfactory decision on this matter extremely difficult. Perhaps the most important legacy of the FSX incident will be to force institutional reform in the process through which

the military and economic components of our foreign policy are linked. It is long overdue.

Perhaps the most serious substantive flaw in the negotiations is the lack of appreciation of the scope and intensity of the Japanese commitment to develop military and civilian aerospace industry. It has been common knowledge that the Japanese had long (since a 1970 MITI report) considered aerospace as one of the three key technologies for the twenty-first century and as a matter of government policy had targeted this industry for development (eg. by strongly promoting domestic defense production and actively encouraging collaboration with Western aerospace firms).⁵ Not only have the Japanese made clear their intention to develop a substantial military aerospace industry with the capacity for export (it is gratuitous to assume that the current restriction on the export of weapons will be permanent), but have made clear for some time that entry into military production would provide ". . . the base for an advance into civilian aircraft."

The co-production arrangement in the FSX agreement: (1) transfers American technology and expertise in areas in which lag; (2) will provide a generation of Japanese aerospace engineers experience in designing a high performance aircraft; and (3) will assure a massive flow of capital to expand the Japanese aerospace industrial infrastructure. To negotiate the present agreement in the context of the recent trade bill, hand wringing about American competitiveness and even its "decline" has a quaint, Alice in Wonderland quality.

The FSX controversy should be a benchmark in American policy toward the Pacific. If the United States and Japan are to successfully adjust their bilateral relationship, both nations will

5. A good overview of the postwar aerospace industry is provided in Richard J. Samuels and Benjamin C. Whipple, "Defense Production and Domestic Aircraft," in Chalmers Johnson, Laura Tyson, and John Zysman, eds., Politics and Productivity: How Governments Create Advantages in World Markets, Cambridge, MA.; Ballinger Books, 1985.

have to undertake substantial institutional reforms to bring economic foreign policy and defense into proper balance. Writing in the summer of 1975, in the wake of the Vietnam debacle, Dr. Richard Erb, noted five factors which he felt mandated change in the process of national security planning: national security interests have declined in priority vis-a-vis other national interests, especially economic interests; Congress had expanded its role in the formation of U.S. foreign policy; the U.S. economy had become more "politicized;" interdependence had made management of the U.S. economy more dependent on overseas developments; and the size of the United States economy had declined relative to the rest of the world.⁶ With only modest qualification, all of these trends have persisted for more than thirteen years, yet no significant and enduring institutional changes have been made in the Executive branch to link economic and defense policy. The possible reforms are many, but most proposals involve as a first step expanding the responsibilities of the National Security Council or creating a comparable organization within the White House staff dealing with economic foreign policy in order to minimize fragmentation of the policymaking process and to insure that the president has a clear grasp of the option available. Some such modest step seems essential, if only to insure that the agenda for linking economics and defense regarding Japan is not set in ad hoc fashion by Congress or by economic crises. A populist and protectionist reaction by the public in the face of economic difficulties would inevitably extend into bilateral defense relations with potentially catastrophic international consequences. Institutional reform to confirm presidential leadership in the political economy of foreign policy is a necessary first step.

Burden-sharing has tended to be narrowly defined in terms of the economic costs of maintaining a given defense posture, when

⁶Richard D. Erb, National Security and Economic Policies, American Enterprise Institute, 1975.

it rightly should extend to the political and psychological costs of participating as a great power in world affairs. Japan has been spared the political-psychological costs because of the international greenhouse made in America. It is essential for Japan to establish symmetry between the economic and political security dimensions of its foreign policy and this too will involve institutional changes within Japan. What should be emphasized internationally is not the past (e.g., the exaggerated threat of a militaristic ultra-nationalism in Japan or the still smouldering fear of a Japanese military capacity in the region), but the future. That is the creative challenge of establishing new international institutions in the Western Pacific that involve Japan in economic and security matters.

Contrary to conventional wisdom, the option for an expanded Japanese defense role is within reach. Article 51 in the United Nations Charter was used by the Japanese to legitimate the establishment of their self-defense forces in 1954. Despite this, the government claims that there are constitutional barriers to the dispatch of Japanese troops abroad and to Japanese participation in a collective security alliance. This is simply in error. Article 51 not only assures the right to all states to individual self-defense (thereby overriding Article 9 of the Japanese Constitution), but proclaims the right of all states to collective defense. In fact, it is cited in the front of the NATO Handbook to certify the right of European nations to collective self defense! Accordingly, official pronouncements notwithstanding, there is no constitutional bar to a broadened Japanese security role. Whatever limits there are, are to be found in the imagination and skill of the political leaders in both nations.

Finally, and contrary to both conventional wisdom and the checkered performance of the United States in the FSX controversy, it is from Washington, not Tokyo, that the initiatives for a new bilateral alliance must come. Japan, despite its economic success will not, indeed can not, become a world leader in the manner of

the United States in the foreseeable future - if only because of an incapacity to generate a international ideal beyond economic power and national self interest, which other nations can accept. The FSX agreement is not a good agreement and the problem has been compounded by the current controversy, but if it does provoke the United States to a fundamental review of its own decision-making processes and to establish new priorities toward Japan linking security and economics, it will be a notable and constructive event in our postwar foreign policy.

Senator BINGAMAN. Thank you very much, Dr. Hellmann.

We will keep to the 5-minute questioning rule with this panel as well. I would like to ask Mr. Prestowitz, and the other witnesses, if they would comment. It is my understanding that, on the issue of the flowback of Japanese military technology, we had an agreement back in 1983 to facilitate the transfer of Japanese military technology to the United States. What has been the problem there? Why are we now looking at this anew? If we did have such an agreement, why are we now looking at this new MOU on the FS-X as the way to achieve this goal?

Mr. PRESTOWITZ. My response to that would be that I am not sure why. We did have an agreement, which was negotiated in 1983. It took until 1985 to get it implemented. I think one of the major points here is that, theoretically, under that agreement, the technology, whatever it is that we are supposed to be getting through the FS-X deal, should be capable of being licensed under that earlier agreement.

Now, some objection might be made that under the earlier agreement the United States is given the possibility of obtaining a license, but the actual obtaining of a license depends on whether the subject Japanese company wants to license or not. My understanding is that under this FS-X arrangement the agreement is that we will get flowback from Japan on technology which is "essentially derived from" American-provided technology. So that means that any technology that Japan develops, which is considered to be indigenous Japanese technology, we do not get a flowback on, except that we can license that technology the same way that we can any technology under this earlier agreement.

Now, the key here is the word "essentially," because the use of that word automatically is going to create, I guarantee you, a whole series of instances in which there is going to be a dispute about whether Japanese technology essentially derived from technology originally provided by the United States or not. I feel certain that Japan will try to narrow as much as possible the range of technology which is defined as "essentially derived from U.S. technology." The United States, of course, will try to expand that, and there is in the MOU, I understand, a provision for a bilateral board to adjudicate over this word "essential."

My concern is that if the past is any guide to the future, we have not been very good at defending our interests there. To go back to the F-15, the GAO did a report in 1982 reviewing the F-15 co-production program. In 1987 the decision was made to restrict the flow of certain technology to Japan under the A-15. These agreements call for constant reviews of the agreement and allow for further requests for technology. By 1982 the GAO concluded that Japan had essentially obtained all the technology that initially had been restricted.

And so, I think our experience with these boards is not very good. I wonder, really, what technology we are going to get that we would not get under the existing arrangements.

Mr. AUER. Mr. Chairman, might I respond to that same question?

Senator BINGAMAN. Yes, Mr. Auer.

Mr. AUER. I think it is very important to distinguish between the flowback of technology and of procurement of technology indigenously developed by a foreign country.

Under any MOU, with Japan or with any other country, before 1983 or since 1983, if the country receiving U.S. technology uses that technology in any way to develop something new, that technology flows back to the United States without charge. This has been a tenet of every MOU. The Japanese have never disputed that.

In 1981, as a part of Secretary Weinberger's asking Japan to have a division of defense responsibilities with the United States, he said that U.S. industry as well as the U.S. Government would like to have access to Japanese indigenously developed technology—not this flowback technology—if it would be useful for us. We have a way of doing that with our European allies. We have this reciprocal technology flow. We understand that in the Japanese legal system you cannot provide this to us. Can you see if you can find a way through your legal system to allow U.S. and Japanese companies to cooperate together the way a U.S. and a European company could?

It took the Japanese 2 years to make a decision. The Japanese Government at the time, perhaps as described by Professor Hellmann, would not step up to that issue. Mr. Nakasone, who did clearly understand the political dynamics of the U.S.-Japan alliance, made a decision in January 1983—it was a unilateral Japanese decision; it was not a U.S.-Japan agreement—that the United States and the United States alone would be exempt from the Japanese restrictions on technology flow. In fact, later in 1983, a U.S.-Japan memorandum was signed outlining procedures whereby that could take place.

Now, that did not obligate the Japanese Government or any Japanese company to give away its technology to the United States. But it made what was legally impossible before now legally possible. And, in fact, there has not been a lot of opportunity. But in this FS-X procedure, in this co-development program, if there is any technology derived from the F-16, we will get that free of charge, as flowback, as we always would have gotten before 1983.

But now, if the Japanese develop something new that we have an interest in—and I think it makes this idea of "essential" not really

an important consideration—we will now have a legal right to buy it, as guaranteed by the 1983 agreement, and, under the provisions of the MOU, they have agreed that if we want this technology, we will have access to it. It is the first exercise, meaningful exercise, of the 1983 agreement.

Senator BINGAMAN. My time has expired.

Mr. PRESTOWITZ. Mr. Chairman, if I may comment on that. I think it is important to understand the spirit in which these agreements are reached to anticipate how they might be executed. I mentioned earlier that we have negotiated many agreements with Japan, the NIT Agreement and the Semiconductor Agreement. We have been disappointed with the way all of them have been carried out. I think it is important to note, as Jim just said, that we have these flowback arrangements with all of our allies. We have had them with the Europeans for a very long time. It took us a year of very, very difficult negotiation to get the Japanese to agree to this flowback provision in the MOU.

Now, anybody who has had experience in negotiating and dealing with the Japanese bureaucracy knows that, even if that bureaucracy has signed an agreement, if there is substantial opposition to the execution of that agreement within that bureaucracy, there are millions of ways in which that can be sabotaged. We know that there is not great enthusiasm in Japan for this deal. Therefore, those of us who have had this experience of negotiating with Japan in previous arrangements are very cautious about how it really is going to work.

Mr. AUER. That simply is not the case, however, in defense-to-defense.

Senator BINGAMAN. My time has expired. Maybe we can follow up on this with questions from some of the other Senators.

Senator Wallop.

Senator WALLOP. Thank you, Mr. Chairman.

I think the bottom line is that we got it, Mr. Prestowitz. You have just said to read the Japanese press and you will find about as much accurate information as to their purposes as you need. I would suggest that if you read the Japanese press, you would get about as much accurate information as you would if you read the American press and read articles by Mr. Clyde Prestowitz, who has not read the MOU. Is that a correct statement?

Mr. PRESTOWITZ. Well, the MOU, as you know, is a classified document.

Senator WALLOP. So that most of your opinion on it is based on hearsay?

Mr. PRESTOWITZ. Well, I was involved, when I was in the Government, in some of the earlier discussions on that. My comment on this is based on the same sources as those of Mr. Auer and Mr. Carlucci and everybody else who has been here.

Senator WALLOP. Dr. Hellmann, let me just make an observation. You viewed the reason for this as some quaint old piece of foreign policy called containment of the Soviet Union. I would suggest to you that if the policy is not containment of the Soviet Union, there is no reason for an FS-X, an F-16, or any other airplane or Japanese defense purchase. In point of fact, that is what the whole part of this is about. I think you heard the testimony as to the subma-

rine protection and the anti-invasion protection, and now the air protection that is coming from this.

Mr. Prestowitz, I read your statement before coming here. On page 6 of your opening statement you question whether the United States will actually get 40 percent of the development work on the FS-X, implying that the U.S. share of 40 percent is dependent upon the Japanese budget remaining at \$1.2 billion. I just must point out to you, sir, that you are simply wrong on this point. That is not what is in the agreement. It is classified. But I would simply, for the record, say that it is there——

Mr. PRESTOWITZ. Well, if you would allow me to respond.

Senator WALLOP [continuing]. And I think Mr. Auer also said that the U.S. share, 40 percent, is guaranteed; even though it may be \$5 billion, \$6 billion, or greater.

Mr. PRESTOWITZ. Senator Wallop, if you would allow me to comment on that, that is an important point. If I am wrong, I am happy to be wrong. But let me tell you the basis on which I made that statement. The initial MOU was followed by an exchange of letters between the two governments which took place on January 10, 1989. Up until that time, there had not been agreement on how the MOU was going to be——

Senator WALLOP. Could I ask you not to filibuster my time and just make your point, please.

Mr. PRESTOWITZ. Well, my point is that section 3 of that exchange of letters, which came after the MOU, says that the United States workshare shall be \$440 million, which equals 40 percent of the entire budgeted amount of \$1.2 billion, or 165 billion yen. That is what that exchange of letters says. Now, that succeeded the——

Senator WALLOP. Let me reassure you that on this instance, that is not the case, and that is not what is contained.

You also mentioned interoperability. On page 1 of your opening statement, you said that the FS-X will not be interoperable with U.S. aircraft. Specifically, you mentioned that the parts and weapons will not be compatible with those found on U.S. F-16 aircraft. Let me just question your definition of "interoperability." "Interoperability" means being able to operate in a common fashion, and vital to this ability is comparability of communication equipment, data links that can easily be tied to U.S. systems, and the ability to use the same runways, the same fuels, et cetera. From my understanding of the FS-X, it will be interoperable in all of these important ways and more. In addition, since the FS-X will be a new aircraft, which will expand mission capabilities far beyond those available to any existing Japanese or U.S. fighter, the only chance the United States has in maintaining interoperability with the FS-X is to be involved with the development and production of that aircraft. Would you agree with that?

Mr. PRESTOWITZ. Well, that is not what the Sullivan Mission said to the Japanese in April 1987, sir. The Defense Department sent a mission to Japan and reviewed the Japanese mission definition, and disagreed with it, and told the Japanese that the plane they were preparing to design, this FS-X, was not capable of performing the multiple missions that the F-16, the F-18, or the F-15E could do.

Senator WALLOP. No, but it is being designed for a mission for which there is no current U.S. aircraft and purpose.

Mr. PRESTOWITZ. Well, again, the DOD—you know, this is not my view—the DOD experts themselves said that the U.S. planes were more capable of performing the Japanese mission than the Japanese planes.

Senator WALLOP. I've got to just say that you are wrong, once again, Mr. Prestowitz. You keep saying that everyone agrees that this is not the best defense solution. In fact, that is not the case.

Mr. PRESTOWITZ. Then ask Secretary Carlucci that question.

Senator WALLOP. Many people agree that it is the best defense solution.

Mr. PRESTOWITZ. But you did not ask Secretary Carlucci if the FS-X was the best defense solution.

Senator WALLOP. It is in his statement, and I did, in fact, ask him that.

My time has expired.

Senator BINGAMAN. Senator Byrd.

Senator BYRD. I compliment all three of the witnesses. I compliment you, Mr. Prestowitz, on your excellent book, "Trading Places," which I have read very carefully. I recommend that everyone who is interested in this general subject matter do the same.

I compliment you, Dr. Hellmann. You came a long way to appear before this committee, and I found your comments and your suggestions to be very interesting and on point.

I suppose you both may be concerned that you might be charged with Japanese bashing, which is a pretty easy way to counter those who express your viewpoint. I don't think anyone wants to engage in Japanese bashing. I certainly do not. I admire the Japanese. I admire them for the way they can make good business deals. I admire them for their ingenuity. They are smart. They are patriotic, and perhaps we could learn some lessons from them. If there is any bashing to do, perhaps we ought to turn our sights on some of our negotiators who, from time to time, have apparently not been very good at defending our own interests—not that we question their patriotism, either. But if we take a look at the track record, it speaks for itself.

I likewise compliment you, Mr. Auer. You have expressed a position here and you have done it very well. Let me ask you this question. Is there anything in the agreement that addresses the issue of spare parts? After all, isn't the spare parts tail of any weapon system, particularly aircraft, a very substantial part of the lifetime cost of such a system? Will General Dynamics or any other U.S. producers get a guaranteed piece of the spare parts action?

Mr. AUER. I don't know, sir. I was not involved in defense arms sales in any of the time that I was in the Pentagon. My understanding and belief would be that if certain parts were made by Japanese companies, they would maintain a parts basis on that; if there was production by U.S. companies, they would provide parts. But I think you would have to ask someone in Defense with expert knowledge as to how that works, sir.

Senator BYRD. Well, I gathered from listening to your testimony that you had pretty expert knowledge of this agreement. If American producers do not get a guaranteed piece of the spare parts

action in this agreement, would that have been an oversight? Don't you think we ought to have nailed down a spare parts agreement as part of the original agreement?

Mr. AUER. Well, sir, I think they have been quite satisfied with the agreements that have been concluded to date.

Senator BYRD. "They," meaning whom?

Mr. AUER. The U.S. producers. In the case of the F-15, the first 100 F-15s that Japan license-produced here resulted in \$1 billion worth of Japanese capital flow here, 40,000 man-years of U.S. labor. They are now into their second 100 F-15s. I think there are similar arrangements in the P-3, and would expect that there would be in the case of this F-16 as well.

Senator BYRD. Would you agree that the spare parts would be a very lucrative aspect of any agreement, and that it would certainly involve a lot of jobs, and that we ought to be concerned as to whether or not that is going to be a part of the agreement?

Mr. AUER. Yes, sir, and to my knowledge, it would be similar to previous agreements.

Senator BYRD. But you have no knowledge that it is a part of this agreement.

Mr. AUER. Sir, I do not have specific knowledge on spare parts.

Senator BYRD. But you do agree that that would be a very important aspect of this agreement, that we ought to be concerned about it. Would you agree to that?

Mr. AUER. In the overall balance, financial balance, yes, sir. I think it is important. Frankly, sir, I just don't know how it is handled in the agreement.

Senator BYRD. Well, I should think, Mr. Chairman, that we ought to try to find out. I understand that Mr. Auer is a supporter of the agreement. I suppose he thinks it is a good agreement, based on the testimony that he has given. It seems to me that we ought to know something about the spare parts.

My time has expired.

Senator BINGAMAN. Thank you, Senator Byrd.

Let me now call on another member of the Armed Services Committee, Senator Levin. I have advised Senator D'Amato that I will call on committee members first.

Senator LEVIN. Thank you very much, Mr. Chairman. And thank you for inviting others to join you in this hearing. This is very interesting, indeed.

First, I must say that I agree with Senator Byrd's comments about Japan bashing. People who are critical of our relationship with Japan should not be bashing Japan. They should be bashing us. We are in control of our own economic destiny. We have only ourselves to look to. If this agreement is a mistake, there is no use being mad at Japan for it. We should be mad at ourselves if we go ahead with it.

I was troubled by something that Senator Wallop just said. I don't think that he has left so let me state my concern as fairly as I can. Apparently, there was some question as to whether or not we believed our planes should have been purchased by Japan. I wonder, Mr. Auer, if you would agree with what Secretary Carlucci said in his written testimony this morning, which is that we tried to persuade our Japanese colleagues that U.S. aircraft would fulfill

Japan's mission requirements. That we argued repeatedly and forcefully that U.S. aircraft were the most cost-effective and provided the most rapidly available solution to their needs. Is that accurate, as far as you know?

Mr. AUER. Yes, sir.

Senator LEVIN. Do you agree militarily, that they should have bought our plane?

Mr. AUER. Sir, I think what the Secretary meant is that they should have chosen a U.S. aircraft as their FS-X, which is what they ultimately did.

Senator LEVIN. Does that mean that they should have purchased a plane that we produce? Is that what he meant?

Mr. AUER. No, sir.

Senator LEVIN. So, the term U.S. aircraft does not mean U.S.-built aircraft?

Mr. AUER. No, sir—a U.S. aircraft. It was our understanding that if they chose a U.S. aircraft, there would be some kind of license-production type of arrangement, as there is in the case of the F-15 and the F-4.

Senator LEVIN. Why is it that they don't buy our F-16s, our F-15s, or our F-18s?

Mr. AUER. They buy U.S. aircraft, Senator—

Senator LEVIN. For this mission, why are they not buying a U.S.-built aircraft?

Mr. AUER. It's not really for the mission; it's because of the number. When they are buying a small number of aircraft, as Mr. Prestowitz mentioned, the E-2C, the C-130, if they do in the future decide on AWACS, they would buy them off-the-shelf. If, in fact, they procure a large number of aircraft, they want some of the work in their own industry. But those arrangements still—

Senator LEVIN. Is that the reason why?

Mr. AUER. Yes, sir.

Senator LEVIN. They want to build part of it there?

Mr. AUER. Yes, sir.

Senator LEVIN. Okay. So we are all clear on that.

Mr. AUER. Yes, sir.

Senator LEVIN. Now, if we buy their cars and their VCRs, why won't they buy aircraft built here?

Mr. AUER. Sir, they do buy some aircraft.

Senator LEVIN. Why don't they buy the F-16s, and the F-18s, and the F-15s that are built here? If we are willing to buy things that are built in Japan, why won't they buy things that are built in the United States? I know that they buy some. But, why won't they buy the F-15s, the F-18s, and the F-16s, as built in America, for this mission?

Mr. AUER. Senator, when Mr. Nakasone was Defense Minister back in 1970, they initiated the policy that when they are buying a large number, they do some of the work at home, and when they are buying a small number, they buy it off-the-shelf. As an American, I would prefer that they not have this policy.

Senator LEVIN. Is that a protectionist policy?

Mr. AUER. I don't know if that word is accurate.

Senator LEVIN. We don't apply this word when they do it, and they threaten us if we even think of treating them the way they

treat us. Now, isn't this FX-S deal clearly an example of protectionist policy on their part?

Mr. AUER. I think we are both capable of protectionism, yes sir.

Senator LEVIN. Is that a protectionist policy on their part?

Mr. AUER. Well—

Senator LEVIN. Is that word not able to come out of our mouths when we should apply it to them? [Laughter.]

Mr. AUER. All right, sir. Japan can act in a protectionist manner.

Senator LEVIN. Are they acting in a protectionist manner here?

Mr. AUER. They are certainly going in accordance with their policy. [Laughter.]

They are a sovereign nation.

Senator BYRD. You made a good try, Senator.

Senator LEVIN. Oh, I'm doing better than just a "try." I think the failure to answer that question cleanly and straight-forwardly says more about our problem than anything else.

Senator BYRD. Absolutely.

Senator LEVIN. If we cannot even call a protectionist act by this name, and we are incapable of doing that, then we have a deep problem.

Senator BYRD. He ought to read Mr. Prestowitz' book, if he has not already done so.

Senator LEVIN. You have put your finger right on it by refusing to put your finger on it. Don't you see? Why not call it what it is. Of course it is a protectionist policy. It is designed to be a protectionist policy. Again, I am not mad at them. I am mad at us. We are incapable of saying that this is a protectionist policy.

So, what are we going to do about it? The answer is we are going to continue to enter into these kinds of deals which hurt us in the long run, and which give us a few dribs and drabs in the short run, because we say it is better than nothing. This will ultimately seal our own economic fate. So, as far as I am concerned, you have answered the question. You have answered the question by not answering the question, and you have done it in a very illuminating way.

I just have to tell you that I am deeply troubled. Now, I don't know how objective I am. I come from a State that has been severely impacted by Japanese imports. And as I said I am not mad at them. I'm mad at us. But I have to tell you, from my perspective, for us not to insist that they buy our planes, which are built here, when it is economically more sensible that they do so and militarily more sensible that they do so, is a terrible weakness on our part and is going to just drive us deeper and deeper into an economic hole.

All of your testimony will be read by me. It is good testimony, and I include all of you. It may sound like I am angry at you, Mr. Auer, though I am not at all. Your approach, however, reflects what our Government's approach has been—and, by the way, that's not just in Republican administrations, but Democratic administrations as well. I was angry at the Carter administration for what I believed to be a weakness in this area, as well as the Reagan administration. So it is not personal at all. But my anger is very deep and very much aimed at Washington. I won't say any more.

Thank you, again, for the invitation.

Senator BINGAMAN. Thank you, Senator Levin.

Senator D'Amato.

Senator D'AMATO. Thank you, Mr. Chairman. I want to commend you and these hearings and Senator Levin for his incisive observations. I agree with him. I think it is an absolute mockery when we have people who come before us and testify with glee that the United States actually enjoys a \$1 billion surplus with the Japanese, and has a favorable balance as it relates to military. We're supposed to get up and say gee, what a fantastic thing, how wonderful. Is that any reason, then, for saying that we will not do what is in our Nation's and Japan's best interest militarily to get the planes into service as quickly as possible in the most cost-effective manner, and in a spirit that will bring about cooperation, as it relates to trade?

I can't believe it. It violates the very basic principles upon which we are supposed to operate in the so-called free trade environment. We take Japanese cars, electronics equipment, and everything, because they can produce them better and more effectively. But when we produce the best of some other product, we are supposed to be apologetic for it, and we're supposed to say we will go into these phony co-production agreements. That is exactly what this is, a phony agreement, because it does not provide for co-production. This technological transfer that we are supposed to gain from, too, is a lot of nonsense. I am not coming down on you, Mr. Auer, but that is exactly what it is.

Former Secretary Carlucci should be ashamed of himself because he knows it. He knows because when former Deputy Secretary of Defense Sullivan was in the Pentagon, we were rebuffed on every request we made to the Japanese relating to the narrowness in which they configured the FS-X deal. He told them that, but they just said well, we don't care, we're going to demand that. He was rejected. When it came to the Defense Department fully investigating the alleged advanced Japanese technology, which will come out of this deal, the Japanese didn't do it. They would not let us see it. You did not see it, Mr. Auer. They did not show it to anybody. Do you know why? It does not exist.

We, in America, have the best composite technology. Here is a former Defense Secretary trying to tell me that composites technology is going to be one of the things to flow back from this. That's nonsense. It is inaccurate and it is not true.

But we should not really tie defense, Mr. Chairman, and trade policy together. Oh, no. It's something sinful. That is the exact argument that we will be facing when the FS-X is being sold by the Japanese to us.

How could we be protectionist and not buy this plane in the future, the most advanced of its kind, when it comes to replacing the A-10 and others that are no longer in production here, for close air support?

And, you know, I wonder how it is that the Defense Department did not come forward when we saw the Japanese Ministry of International Trade and Industry target the United States ball bearing industry. So now, the Defense Department has to admit, sadly, and has testified before various committees that we, the United States

of America, cannot meet our own mobilization requirements for ball bearings if we were to have an emergency today.

This agreement, as far as I am concerned, Mr. Chairman, should certainly be explored with the kind of undertaking that you have begun here today. I think the ramifications go far beyond just whether or not the FS-X should be approved, it is really whether or not at some point in time we are going to have the courage to make a stand when we say we want fair treatment and fair play. I am afraid that if we continue to delay, we may not have the ability—the political ability—to defend the legitimate interests of this Nation. The economic power of the Japanese is such that it does influence our domestic political decisions.

It may not have reached the area of national security and the defense industry. But it has reached it in so many other cases. They have established a powerful lobby, both governmentally and politically. Their lobbyists have influence. If we do not act now, we may not have the vitality in the future to be able to put together a coalition that can do what is right for America and for our interests and for our citizens.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you, Senator D'Amato.

Again, I am sure each of us has a substantial number of additional questions that we would like to ask. However, we have another panel that we have asked to appear today, and I think in the interest of hearing our additional two witnesses, I will go ahead and dismiss you gentlemen. Thank you very much for coming. We hope that in the future we can continue to hear your views.

The third and final panel consists of two witnesses: Mr. Edward Bursk, Chairman of the International Council of the Aerospace Industries Association, and Mr. William R. Hawkins, Economics Analyst with the U.S. Business and Industrial Council. Would you gentlemen please come forward. Mr. Bursk, perhaps you could go first. We will hear from both you and Mr. Hawkins and then we will have a few questions. Thank you for coming.

STATEMENT OF EDWARD C. BURSK, CHAIRMAN, INTERNATIONAL COUNCIL, AEROSPACE INDUSTRIES ASSOCIATION

Mr. BURSK. Thank you, Senator.

I have a brief statement. I am here today to testify on behalf of the Aerospace Industries Association as this year's chairman of that Association's International Council. AIA represents 50 of the Nation's major manufacturers of aircraft, aircraft engines, helicopters, spacecraft, missiles, space launch vehicles, and the related airborne and ground-based components and equipment, employing more than 1.3 million workers, nearly 7 percent of the total U.S. manufacturing employment.

We appreciate your invitation to testify today on the implications of the FS-X agreement. I am in the happy position of being able to give you a simple, nongovernmental, nonpolitical, nonacademic view of the industry environment in which the FS-X agreement is situated.

Globally, the U.S. aerospace industry is a major exporter. Aerospace is the leading exporter among U.S. manufacturing indus-

tries—and in recent years has outperformed all major U.S. commodity groups selling overseas. The industry's 1988 trade balance is projected to be a positive \$17.8 billion.

With respect to Japan, according to the Department of Commerce, the U.S. aerospace sector exported \$2,710,000,000 in equipment and services to that country in 1988, and imported \$276 million. Over the last 5 years, and as Senator Wallop pointed out this morning, Japan is now the largest single customer in the world for U.S. aerospace companies, both in commercial and in defense products.

However, our industry is not at all—not the slightest bit—complacent about our current competitive advantage in Japan or anywhere else. We know that aerospace is already a thoroughly internationalized industry, with capable technology in many countries. Our products compete to supply the military forces in every allied country, subject to the same national requirements for self-sufficiency in defense that we have in the United States. With so many competitors relative to the size of the market, there is over-capacity in all segments of the industry. For example, there are 30 countries which now produce their own fighter aircraft or participate in joint programs to build fighter aircraft. There are 19 different countries involved in 25 different civil aircraft and engine programs ongoing now.

The complex nature of aerospace products makes it possible to break products into components, providing market opportunities for many suppliers, and the costs and risks of aerospace production are such that even the largest companies need to share them. Investment prior to first delivery of a new, medium-range commercial transport can be \$2 billion over a 4-year period. Driven by the desirability of rationalization, standardization, and interoperability with our allies, and burdensharing, of course, cooperative defense programs are now the rule. The result has been a natural and increasing growth in joint ventures, co-production, licensing, and direct investment in our industry.

Last year the association published a study titled, "The U.S. Aerospace Industry and the Trend Toward Internationalization," which describes these factors. Senator, if possible, I would like to submit a copy of that for the record.

Senator BINGAMAN. We would be glad to include that.

Mr. BURSK. Thank you.

[The information referred to is retained in committee files.]

Mr. BURSK. It was precisely this environment that I believe encouraged the Armed Services Committee to endorse the Nunn-Quayle-Warner amendments to stimulate NATO cooperative programs. Of course, cooperation makes even more sense as defense budgets here and in our allied countries are scaled back. The legislation was later extended to other close allies, including Japan.

Ironically, the United States approached several European countries to participate in developing an advanced version of the F-16 and F-18, with all parties, including the United States, contributing to the development costs. The Europeans turned us down. The Japanese have accepted a similar proposition, but have agreed to pay all the costs.

The internationalization of the aerospace industry will continue as both the number and variety of business alliances increase, and national self-interest will continue to shape the direction the industry takes here and overseas. A careful balance in international relationships is desirable, since it involves sensitive, industrial base and technology issues. Because of the market opportunities at stake, compromises and controls are inevitable. In this context, the FS-X program can be seen not as a setback to U.S. aerospace trade interests, but, rather, as an understandable means to maintain access to the United States' most important aerospace market.

There is, I think, no argument with the ability of Japan to develop and build a fighter plane. I have heard none this morning. They designed the FS-X predecessor, the F-1, and have co-produced hundreds of F-4s and F-15s. There would seem to be no real doubt the Japanese originally intended to develop the FS-X indigenously, and would again. Japan's national pride, economic power, and manufacturing and technical skills convince us that they can succeed. If they want other partners, there is no question our European competitors would be pleased to participate in an FS-X program, as they did in the Japanese F-1. Of course, if Japan goes it alone or turns to the Europeans, we would have missed opportunities for future production of spare parts, to which Senator Byrd alluded earlier.

So the real question, it seems to me, is whether or not the present arrangement is a good one, whether or not the U.S. Government tried as hard as it could to sell an American plane off-the-shelf, whether or not the technology flow in both directions is reasonable, and whether or not the technology flow from the United States could give the Japanese a major boost in its ability to enter the commercial aerospace industry. While this has been debated here this morning, I believe the record shows a serious U.S. effort to convince Japan to choose an existing plane from U.S. inventory as the basis for their program, the same effort made to influence our NATO allies to buy American.

We all know that technology is time-sensitive. Just as we cannot afford to trade away our critical technology, we cannot afford to refuse to trade our current technology until it loses value.

The FS-X program involves the release of airframe technology of about the same timeframe as the F-15, which the Japanese have been producing for 10 years. The avionics and radar will be provided by Japanese domestic industry, although I would think if there are difficulties in development, there may be opportunities for sale of systems that are now on the U.S. F-16s. We are told the U.S. engine manufacturers may not transfer any sensitive technical information until DOD approves—that is normal procedure—presumably, when the production MOU is ratified. The current U.S. Government position is that critical integration software technology will not be released at all.

As Secretary Carlucci said, the United States is neither sharing the technology of the advanced tactical fighter program nor the advanced tactical aircraft, which represent our leading-edge technology. These planes will be entering the U.S. inventory in the mid-1990s at about the same time or a little before the FS-X enters into production in Japan.

As for the flow of technology envisaged by the FS-X agreement from Japan to the United States, the Japanese are attempting to manufacture composite structures which are different than we are currently undertaking. If they succeed, the manufacturing technology will be of use to the United States. If they do not, there should be an opportunity to increase U.S. participation in the FS-X by selling the wing.

General Dynamics engineers will work with their Japanese counterparts in the design of the wing. General Dynamics will construct an adequate number of wing sets in the United States to assure the effective transfer of the manufacturing technology. I think that is very important.

As to the commercial aerospace industry, the Japanese currently produce portions of the Boeing 676 and the MBB/Kawasaki business helicopter, and I think this and previous experience in building other passenger aircraft in Japan are likely more relevant to future Japanese participation in the commercial aircraft field than involvement in producing a jet fighter.

So my perception of the U.S. technology involved in the FS-X is that it is at a reasonable level and under U.S. Government control. I would point out, too, that the process of controlling technology exports is ongoing and thorough. Every technical briefing and shipment of hardware of every U.S. system is subject to review by Commerce, DOD, State, and, within DOD, by the military departments. If anything, in my view the system errs on the side of protecting technology which is available from alternative sources overseas.

The overriding issue for our industry, in my opinion, is technology: The technological advantage we must maintain and the technology we must be able to exchange with our allies for trade and security reasons. We need a balanced technology transfer policy which allows a two-way flow of technology between the United States and its allies, including Japan. Unnecessary technology controls cause U.S. firms to lose sales and have encouraged foreign countries to go it alone, or to form consortia, which freeze out U.S. industry.

If research and development are appropriately funded, then, by the time technology is transferred, a U.S. firm should have incorporated still newer technology into its products and processes. I think that is the case here. We need not only strong R&D funding by both industry and Government, but appropriate emphasis and cooperation between Government and industry on development and the rapid application of technologies that will keep U.S. industry on the leading edge. We appreciate the approach taken by you, Senator, last year in your industrial base study.

With this in mind, in fact, the Aerospace Industries Association has called for what we believe is an unprecedented peacetime, industry-Government-university partnership to support a national technology program. We call it "Key Technologies for the 1990s." In it, the industry has identified an array of technologies, including composites, advanced sensors, and artificial intelligence which could make obsolete much current aerospace product technology, and ensure our long-term competitiveness. If possible, I would like to submit that for the record as well.

Senator BINGAMAN. We would be glad to include that.

Mr. BURSK. Thank you.

[The information referred to is retained in committee files.]

Mr. BURSK. I conclude that the FS-X program is probably the best arrangement that could be reached, given the realities of the aerospace industry worldwide, and given national sovereignty considerations. But we are mindful in this industry that, in addition to working jointly with our customers to maintain market access, we must stay ahead technologically in order to survive competitively. Our real goal, we believe, must be to advance our technology more rapidly than our competitors, rather than vainly expecting to slow their progress. The real issue is whether or not the United States can find the cooperative framework and resources to continue to compete effectively in the global market, and we think we can.

Thank you very much.

[The statement of Mr. Bursk follows:]

TESTIMONY OF
AEROSPACE INDUSTRIES ASSOCIATION, INC.
CONCERNING
IMPLICATIONS OF FSX AGREEMENT

Mr. Chairman and Members of the Subcommittee:

I am Edward Bursk, Director of International Programs for Raytheon Company. I am here today to testify on behalf of the Aerospace Industries Association (AIA), as this year's Chairman of the AIA International Council. AIA represents fifty (50) of the nation's major manufacturers of aircraft, aircraft engines, helicopters, spacecrafts, missiles, space launch vehicles and the related airborne and ground-based components and equipment, employing more than 1.3 million workers - nearly seven percent of the total U.S. manufacturing employment. We appreciate your invitation to testify today on the implications of the FSX agreement between the government of the United States and the government of Japan.

Globally, the U.S. aerospace industry is a major exporter. Aerospace is the leading exporter among U.S. manufacturing industries - and in recent years has outperformed all major U.S. commodity groups selling overseas. The industry's 1988 trade balance is projected to be a positive \$17.8 billion.

With respect to Japan, according to the Department of Commerce, the U.S. aerospace sector exported \$2,710 million in equipment and services to that country in 1988 and imported \$276 million. Over the last five years Japan has been the largest single customer in the world for U.S. aerospace companies both in commercial and defense products.

However, the aerospace industry is not at all complacent about our current competitive advantage. We know aerospace is already a thoroughly internationalized industry, with capable

technology in many countries. Our products compete to supply the military forces in every allied country, subject to the same national requirements for self-sufficiency in defense we have in the United States.

With so many competitors relative to the size of the market, there is overcapacity in all segments of the industry, e. g., there are 30 countries producing their own fighters or participating in joint programs to build fighter aircraft. There are 19 different countries involved in 25 different civil aircraft and engine programs.

The complex nature of aerospace products make it possible to break products into components, providing market opportunities for many suppliers. The costs - and risks - of aerospace production are such that even the largest companies need to share them. Investment prior to first delivery of a new medium-range commercial transport can be \$2 billion over four years.

Driven by rationalization, standardization and interoperability . . . and burden sharing, cooperative defense programs are now the rule. The result has been a natural and increasing growth in joint ventures, co-production, licensing, and direct investment. Last year AIA published a study entitled "The Aerospace Industry, A Trend Toward Internationalization" which describes these factors. I would like to submit this study for the record.

It was precisely this environment that encouraged the Armed Services Committee to endorse the Nunn-Quayle-Warner amendments to stimulate NATO cooperative programs. Cooperation makes even more sense as U.S. and NATO defense budgets are cut back. This legislation was later extended to other close allies, including Japan.

Ironically the U.S. approached several European countries to participate in developing an advanced version of the F-16 and F-18, with all parties contributing to development costs. They

turned us down. The Japanese have accepted a similar proposition, but agreed to pay all costs.

The internationalization of the aerospace industry will continue as both the number and variety of business alliances increase. National self-interests will continue to shape the direction the industry takes.

A careful balance in international relationship is desirable since they involve sensitive industrial base and technology issues. Because of the market opportunities at stake, compromises and controls are inevitable.

In this context, the FSX program is not a setback to U.S. aerospace trade interests, but rather an understandable means to maintain access to the United States' most important aerospace market.

There is, I think, no argument with the ability of Japan to develop and build a fighter plane. They designed the FSX's predecessor (the F-1) and have co-produced hundreds of F-4s and F-15s.

There would seem to be no real doubt the Japanese originally intended to develop the FSX indigenously, and would again. Japan's national pride, economic power, and manufacturing and technical skills convince us that they can succeed. If they want other partners, there is no question our European competitors would be pleased to participate in an FSX program (as they did in the Japanese F-1).

So the real question is whether the present arrangement is a good one: whether the U.S. Government tried as hard as it could to sell an American plane off the shelf; whether the technology flow in both directions is reasonable, and whether the technology flow from the U.S. could give the Japanese a major boost in its ability to enter into the commercial aerospace industry.

I believe the record shows a serious U.S. effort to convince Japan to choose an existing plane from U.S. inventory, the same

effort made to influence our NATO allies to buy American.

I know technology is time-sensitive. Just as we cannot afford to trade away our critical technology, we cannot afford to refuse to trade our current technology until it loses value.

The FSX program involves the release of airframe technology of about the same time frame as the F-15, which the Japanese have been producing for ten years.

The avionics and radar will be provided by Japanese domestic industry - although I would think if there are difficulties in development, there may be opportunities for further U.S. involvement.

We are told the U.S. engine manufacturers may not transfer any sensitive technical information until DoD approves - presumably when the production MOU is ratified.

The current U.S. Government position is that critical integration software technology won't be released.

The U.S. is not sharing the technology of the Advanced Tactical Fighter program or the Advanced Tactical Aircraft, which represent our leading edge technology. These planes will be entering into the U.S. inventory in the mid-1990s, at about the same time the FSX will enter into production in Japan.

As for the flow of technology envisioned by the FSX agreement from Japan to the U.S., the Japanese are attempting to manufacture composite structures which are larger and more complex than any currently undertaken. If they succeed, the manufacturing technology will be of use to the U.S. If they do not, there should be an opportunity to increase U.S. participation in FSX by selling the wing.

General Dynamics' engineers will work with their Japanese counterparts in the design of the wing; General Dynamics will construct an adequate number of wing sets in the U.S. to assure the effective transfer of the manufacturing technology.

As to the commercial aerospace industry, the Japanese

currently produce 25 percent of the Boeing 767 and 40 percent of the MBB/Kawasaki BK 117, a business helicopter. This and previous experience in building other passenger aircraft are likely more relevant to future Japanese participation in the commercial aircraft field than involvement in producing a jet fighter.

So my perception of the U.S. technology involved in FSX is that it is at a reasonable level and under U.S. Government control. I would point out, too, that the process of controlling technology exports is ongoing and thorough; every technical briefing and shipment of hardware is subject to review by Commerce, DoD and State, and within DoD, by the military services. If anything, the system errs on the side of protecting technology which is available from alternative sources overseas.

The overriding issue for our industry is technology: the technological advantage we must maintain, and the technology we must be able to exchange with our allies for trade and security reasons. We need a balanced technology transfer policy which allows a two-way flow of technology between the United States and its allies. Unnecessary technology controls cause U.S. firms to lose sales and have encouraged foreign countries to go it alone or to form consortia which freeze out U.S. industry.

If research and development are appropriately funded, then by the time technology is transferred, a U.S. firm should have incorporated still newer technology into its products and processes.

We not only need strong R&D funding by both industry and government, but appropriate emphasis and cooperation between government and industry on development, and the rapid application of, technologies that will keep the U.S. industry on the leading edge. We appreciate the approach taken by you, Mr. Chairman, last year in your Industrial Base Study.

With this in mind, the Aerospace Industries Association has called for an unprecedented peacetime industry-government-

university partnership to support a national technology program. We call it "Key Technologies For the 1990's". In it the industry has identified an array of technologies including composites, advanced sensors, and artificial intelligence which could make obsolete much current aerospace product technology, and ensure our long-term competitiveness. I would like to submit this for the record, also.

I conclude that the FSX program is probably the best arrangement that could be reached, given the realities of the aerospace industry worldwide. But we are mindful in this industry that in addition to working jointly with our customers to maintain market access, we must stay ahead technologically to survive competitively.

Our real goal must be to advance our technology more rapidly than our competitors, rather than expecting to slow their progress.

The real issue is whether or not the U.S. can find the cooperative framework and resources to continue to compete effectively in a global market. I think we can.

Senator BINGAMAN. Thank you very much.
Mr. Hawkins.

**STATEMENT OF WILLIAM R. HAWKINS, ECONOMICS ANALYST,
U.S. BUSINESS AND INDUSTRIAL COUNCIL**

Mr. HAWKINS. Thank you, Mr. Chairman.

I am the Economic Policy Analyst for the U.S. Business and Industrial Council, a 55-year-old organization, representing some 1,500 companies in the United States across a broad spectrum of businesses. We have long been concerned about technology transfer and protecting the defense industrial base of the United States. We commend the subcommittee for the work it has done to integrate economic and defense matters into what we hope will eventually emerge as a coherent national strategy that will consider both as just simply factors of a broader picture. I have submitted written testimony, and I would ask that that be entered in the record.

Senator BINGAMAN. It will be included in the record. /

Mr. HAWKINS. Thank you.

It is not my intention to belabor points made previously or simply to repeat what has been said by other witnesses who have covered this very well. I would like to say something, though, in reply to some of the remarks just made by Mr. Bursk.

I both agree and disagree with some of his points. There has been a tendency to internationalize aircraft production. This is because of the extreme costs involved in designing high-tech systems, particularly combat aircraft. I draw a different conclusion from this, however, in that much of the debate today has been in terms of whether or not Japan could go ahead and build an FS-X alone, if this deal fell through, or if we wanted changes in it that antagonized Tokyo.

We have heard testimony that Japan itself decided some time ago that going it alone was not a viable option. It is not a viable option because it simply does not make any economic sense for Japan to try to develop an advanced fighter plane by itself. The objective of this program, Japan claims, is to build a fighter which is an advance in capability over anything they could acquire directly from the United States in the same timeframe.

Now, given that the United States has been making great improvements on the F-16 over the last 10 years, this means that they are really moving into the next generation of tactical fighters. To look at how difficult this would be for them to do without borrowing or acquiring our technology and our expertise in this, we would look at other countries that are in the same process of trying to develop this next generation for the mid-1990s and see the troubles they are having.

They also have great desires to maintain an independent aircraft industry. The Israeli case was mentioned earlier, I believe by Senator Dixon, and that was cancelled because it was extremely expensive, much more than anticipated. It ran to practically \$2.5 billion, and they decided that it was too expensive and they could never afford to build it, even if they were successful in developing it. So that was canceled.

Sweden is another country with a long tradition of building its own aircraft—with five generations of jet fighters since the end of World War II. It has taken them 20 years to come up with a design for the new generation, for the 1990s, of the JS-39, which was just rolled out last year. It has been very controversial in Sweden, again, because of extremely high costs—\$4.5 billion. It has come very close to being terminated several times because of these costs and the fear that Sweden will not be able to build enough of them to make it cost effective.

The French, again, that is a country with a long experience in building advanced fighters—their Mirage series—the Mirage 3, the F-1, the Mirage 2000—and they are now moving in with the ACX program. But it has been extremely expensive and very controversial in France—much more expensive than expected, very difficult to accomplish. It has been pushed back, the borderline, of when it is supposed to be introduced, from the early 1990s, to the mid-1990s. It is now set for 1997 or 1998. It's very difficult to do, even when you have had 30 or 40 years of experience building jet aircraft.

In Europe, the European fighter aircraft is an example of what Mr. Bursk was saying about international cooperation. France, England, Germany, Italy, and Spain are cooperating to build the EFA because, again, in costs and in the technology involved, it is far beyond what any of them could do independently. They found

this out a long time ago, when the British, Germans, and Italians cooperated in building the Toronado, establishing the three-way consortium to do that. Even so, the EFA is costing something close to \$6 billion. And, again, there has been nervousness in many capitals about whether or not they should continue that, or whether it will ever be cost-effective.

Given this, to think that Japan, which does not have 30 or 40 years of aircraft development or experience behind them—they have virtually none—Mr. Bursk said that they designed the F-1, which is to be replaced by the FS-X. Well, that is hardly true. The basis of the F-1 is Northrop's old T-38 jet trainer, with a license design British engine. It is hardly anything in the league of designing from scratch a new high-tech fighter from the 1990s. This is an old design of a trainer plane, converted into a fighter bomber. That hardly qualifies as state-of-the-art. They have license-produced the F-4 and the F-15; but, again, that is co-production, not co-development. It was our design. They simply assembled it.

So they do not have anywhere close to the experience that other nations have had. Yet, they claim that they can do a better job than these other nations have done in designing the next fighter. That simply is not credible. I don't know whether it is just their national pride and optimism, or whether this is a negotiating bluff. But, either way, we should essentially treat it as a bluff and not be afraid to call it.

Even if we co-develop this FS-X, the question is whether or not it would make any economic sense. This question has come up before. But I think we have to look at the small number of planes that Japan is going to build. It has been referred to, I believe in the last panel. Mr. Auer said that Japan wanted to build this because it was a large project. Well, it is not. I mean, they are looking at building 130 to 170. Those are the estimates. It's as few as 130, but only as many as 170. That is nothing, in terms of a project of this size.

The French and the European fighter aircraft, they are questioning whether or not it is feasible economically to build a fighter when they are looking at building 1,000 planes each of those models. And they still won't know if it is going to be enough to justify or recover the investment in research and development. They are still looking at spending \$40 million, \$50 million, \$60 million per plane, even with those long production runs.

For Japan to think that this is going to be economically feasible for them to even co-develop a fighter when they are only going to buy 130 to 170, given the great sensitivity of the size of the production run to the unit cost of the plane, again, this does not make any economic sense. If Japan's principal goal is to acquire a fighter that will defend their country against the rising Soviet air presence in East Asia, the only economically sensible solution would be to buy an American fighter, something that will have a large production run.

Their argument that what we have or what we would have by the mid-1990s is not good enough, again, I do not think holds water, because, in the case of France, the French Navy has said that they would rather have the upgraded FA-18 than the French ACX, which they seem to think would be as good a plane and at

half the cost of the new fighter. The British Air Force, the Royal Navy, and the German Luftwaffe have also expressed interest in the possibility that they would take the FA-18 instead of the European fighter program—again, because it would be half as expensive as their envisioned program and would have the same capability.

So we are talking about upgraded or advanced American planes, which the Europeans feel are comparable with their next generation of fighter aircraft, which are to be as good or better than what the Japanese are looking at with the FS-X. So, again, it does not appear that the Japanese claim is credible that they are having to develop their own plane because we don't have anything good enough. But we are moving ahead here. Technology is not static. We are not talking about 1970s, F-16 technology.

Now, we do have, as we co-develop this, Mr. Bursk said something about working on the wings with them. That is probably true. We have more experience at that, the composite wing. We, at least, have an all-composite wing on aircraft, the AF-8. It is not a high-performance aircraft, like the FS-X or the F-16, but at least we have one. The Japanese have never built an all-composite wing on anything. They supposedly have great computer models, but anyone should realize that there is a big gap between drawing a wing on a computer and putting it on a plane and testing it and making it work. We, at least, have done that, or taken a step in that direction, and Japan has not.

Senator BINGAMAN. Mr. Hawkins, could I ask you to take 2 or 3 more minutes and conclude your remarks because we are about to run out of time.

Mr. HAWKINS. Yes, sir. I realize that.

So, if the FS-X does not make economic sense and it really does not make military sense because it will get into their inventory later and there are a lot of questions as to whether or not they can do it at all, then why are they doing this? Why do they want this?

I think it goes back to the fact that it's not part of their military strategy; it's part of their industrial strategy. They want the technology. They want to build a base. They do not so much want to replace the F-1 with the FS-X; it's to replace a low-level aerospace industry with a state-of-the-art aerospace industry. It is part of their industrial policy, not their military policy.

We could do much better providing them with our own fighters directly for a military option, and it is certainly against our national interest to fulfill their industrial objectives for them, given that they are our principal economic rival.

Thank you.

[The statement of Mr. Hawkins follows:]

Testimony of
William R. Hawkins
Economic Policy Analyst
U.S. Business and Industrial Council

Mr. Chairman and members of this subcommittee, thank you for this opportunity. My name is William R. Hawkins, economic policy analyst for the U.S. Business and Industrial Council (USBIC).

The USBIC is a 55-year-old membership organization of 1,500 conservative business leaders representing a broad cross-section of business and industry nationwide. USBIC has long supported greater oversight of American technology transfers, from the perspective of both economic and military security.

The U.S. Business and Industrial Council opposes the terms of the current agreement between General Dynamics and Mitsubishi Heavy Industries to jointly develop a new support fighter, the FS-X, that Japan would place into production in the late 1990s. The Council's position is that the current agreement gives Japan too much advanced technology developed at American expense, and gives the U.S. too little in return. The Council believes that Japan's purpose in undertaking this project is to create its own high-performance aircraft industry that will, in the future, be a rival to the American aircraft industry; and, that such a rivalry will not only harm the defense industrial base of the United States and raise the cost of future American military aircraft, but will also weaken the integrity of the U.S.-Japanese alliance. The Council also believes that this agreement does not provide the best or least cost-effective response to the Soviet airpower buildup in the Western Pacific.

Japan wants to expand its aerospace industry and bring its technological capabilities up to the first rank. However, Japan

cannot do this in the near-term without substantial outside help from the United States. Mitsubishi was the prime contractor on the F-1, which was an upgraded supersonic trainer based on a British design. The new agreement calls for Japan to use the FS-X to replace the F-1 in the role of fighter-bomber and maritime strike aircraft. But, the real aim is to replace the aerospace industry that built the rather pedestrian F-1 with an aerospace industry capable of producing advanced aircraft like the FS-X. If Tokyo was primarily concerned with upgrading its air force with the best value for its money, it could buy an advanced version of either the General Dynamic's F-16 (Falcon) or McDonnell-Douglas' F-18 (Hornet), both of which are support fighters adaptable to the missions envisioned for the FS-X. Both are currently under development in the U.S.

Japan has made it clear that it does not want to buy an American-produced aircraft. It bought the F-15 (Eagle) only on the condition that it could build the aircraft under license in Japan so that it could gain technology and production experience.

However, the creation, and more importantly the sustainment, of a first-rank aerospace industry is very expensive. The attempt by other nations to do so has become so burdensome that independent efforts are virtually a thing of the past. In Europe there has been a marked trend towards joint projects. The most successful has been the Tornado multi-role fighter created by the British-German-Italian consortium Panavia -- British Aerospace, Messerschmitt-Bolkow-Blohm (MBB) and Aeritalia. The engines came from another tripartite consortium, Turbo-Union -- Rolls-Royce, Motoren-Turbinen-Union (MTU) and Fiat. The Tornado development costs were beyond what any single country wanted to spend. Its economic success has depended on large production runs. Over 1,000 Tornados have been ordered, of which 700 have been delivered to the air forces of England, Germany, Italy and Saudi Arabia.

High-technology aircraft have high fixed costs of research and development, and of investment in specialized production equipment. These lead to extremely high per-unit costs unless they can be spread out over a long production run. Japan only plans to build 130 to 170 FS-X aircraft. This means that unit costs are going to be in the range of \$24 million to \$38 million per aircraft for the estimated \$5 billion production program, on top of the estimated \$600 million to design the proto-types. In contrast, the advanced F-16 is estimated to cost only \$15 million each.

Japan's willingness to pay a premium for such a small number of aircraft strongly implies that Japan is after more from this deal than the FS-X aircraft. Given that Japan has a self-imposed ceiling on defense spending of 1 percent of gross national product, the extra money spent on home development of the FS-X means less money available for other military projects. This weakens the forces that can actually be deployed by Japan in the Northern Pacific and increases the burdens placed on American forces in the region to deter and contain the Soviets.

There is also reason to suspect that Japan's estimated costs for developing the FS-X independently are too low. Japan has used as bargaining leverage the threat of going it alone; that General Dynamics should take what it could get from the project since it was better than nothing. It has been reported that Japan has attempted to intimidate both the Executive Branch and Congress, to prevent them from undertaking a detailed review of this project, by threatening to cancel the General Dynamics deal if approval for the technology transfer is not given by March 31. The U.S. should not be afraid to call this bluff.

Japan claims that it can develop the FS-X by itself for only \$1.2 billion. This is unrealistic, given the record of countries with far more combat aircraft production experience than Japan. Sweden, despite its strong desire to protect its

neutrality by maintaining an independent defense industry, took 21 years to introduce a new multi-role fighter, the JAS-39 (Griffin), which was rolled out a year ago. And Sweden has been building high performance fighters since the 1950s. The JAS-39 has been very controversial because of its cost: \$6.5 billion for five prototypes and 140 production units (\$46 million each).

Israel, also with a strong desire for independence and with experience from modifying American and French aircraft and in designing the Kfir fighter, had to abandon the Lavi fighter project because development costs originally put at \$1.5 billion exceeded \$2.3 billion. It should be noted that the Lavi wing was an advanced composite design to be built and shipped to Israel by Grumman Aerospace. However, the State Department barred the actual transfer of this technology to Israel; Israel will now buy 75 to 100 more F-16s due to Lavi's cancellation.

Another independent power, France, despite such past successful projects as the Mirage III and F.1, has run into cost problems with its new ACX (Rafale) fighter program -- \$4.4 billion in development and production costs already, approximately \$50 million per fighter. And, the in-service date has been pushed back two to three years, to a current target date of 1998. Other countries participating in the European Fighter Aircraft program, following the precedent set by the Tornado fighter, seek a solution to the high cost of aircraft development by sharing it among several nations.

It is thus highly doubtful that Japan could meet either its targets for cost or delivery date for an FS-X without a substantial transfer of American technology and production experience. Japan acknowledges that it cannot now produce the airframe or the engines for such an aircraft. Its claim that it can produce all-composite wings and that it will share this knowledge with the United States is also open to question.

During the development stage, which is all that the current

agreement covers, six prototype FS-X aircraft will be built. Thus, six sets of wings will be needed. The American experts involved have determined that the only potentially-promising Japanese technology in this stage of the program is the building of the wings from composite materials. No one has ever built and successfully tested all-composite wings in a high-performance fighter. The U.S. has all-composite wings on the AV-8B (Harrier), but this is a subsonic aircraft. The Japanese have no aircraft that employ all-composite wings. They have gained some knowledge about partially-composite wings from their production (under license) of the F-15, but it will be a significant step up from this to an all-composite wing.

There is no proof that the Japanese can take this step by themselves. The U.S. Air Forces' chief materials engineer, Ted Reinhart, has been quoted as questioning the idea of a technology swap with Japan, saying "They don't have anything that we would really need. I don't see why we are going to trade fighter technology for a technology we can't use." And I believe that General Dynamics has also briefed the Armed Services Committee on its doubts as to this part of the project. Nevertheless, the Defense Department seems to be counting on Mitsubishi making good on its claim that it can produce an all-composite wing for the FS-X and that Mitsubishi will then share this new technology with the U.S.

The argument for approving the transfer of U.S. aviation technology to Japan is premised on the notion that the U.S. will receive this new wing technology in return. But even if Mitsubishi is successful in developing an all-composite wing, it is not clear that the Japanese firm will be willing to share this information with General Dynamics. Early last December, the Japan Defense Agency sent a special emissary with this proposal: that Japan build the six sets of prototype wings, and General Dynamics build a seventh set for its own evaluation. Of course,

this seventh set of wings could not be fully tested since there would not be a seventh prototype aircraft on which to mount them. The U.S. Department of Defense (DoD) and General Dynamics rejected this proposal, taking the position that General Dynamics needed to build half the wings in order to master the production processes involved.

Word came back from Japan that the head government official on the FS-X project was threatening to cancel the program if the U.S. did not agree to letting Mitsubishi build all six wings. DoD bowed to this threat and negotiated in Tokyo the following compromise: General Dynamics would build only two wing sets, one for ground testing and one for flight testing. Mitsubishi would build five sets, two for ground testing and three for flight testing. General Dynamics will thus fall far short of building half of the prototype wings and will not gain nearly as much knowledge about all-composite wing production as will Mitsubishi. This is likely a preview of what the Japanese position will be when the prototype phase is completed and a new agreement is negotiated covering production of the service aircraft. Mitsubishi will undoubtedly wish to monopolize wing production.

For its own security, the United States cannot afford to create another rival aerospace/defense industry. The U.S. defense industrial base is already endangered by its reliance on foreign manufactured components. Only a few months ago, a team of specialists led by John N. Ellison of the National Defense University titled their new study Mobilizing U.S. Industry: A Vanishing Option for National Security. Among the causes cited for the decline in U.S. production capability was the "globalization of economic activity" that has seen the production of many critical components of strategic industry shifted to foreign soil, beyond American control. Of particular concern are raw material stockpiles, oil imports, steel and other heavy industries, machine tools and computer chips.

Dr. Paula Pettavino, writing in last autumn's Naval War College Review, would add shipbuilding to the list, noting that the "capacity needed by the nation to defend itself is inadequate...with no prospect for bettering itself." She further observed that "the shipbuilding industry in this country has not been competitive on the international market since 1950...without naval and subsidized commercial building contracts, there can be no American shipbuilding capacity." In 1986, Japan and South Korea together accounted for 52.7 percent of world commercial shipbuilding compared to 1.1 percent for the U.S. These foreign yards have been created in response to those government's decisions to dominate the world market in this field.

Prof. Edward A. Olsen, from the Naval Postgraduate School, has recently called for "strategic protectionism" to keep the domestic military-industrial base from being destroyed in the global trade war. Dr. Olsen argues that "The United States is slipping into an unacceptable dependency on foreign suppliers of heavy industrial products, which are necessary to produce the conventional armaments that are required to maintain U.S. security." Writes Olsen, "Abstractly, one could argue that such dependency is acceptable because the United States can rely on its allies....however, the contention must be dismissed for a number of reasons. Foremost is the doubtful reliability of allies under duress. Their political reliability clearly cannot be guaranteed during a crisis or war. Some are not even reliable supporters of U.S. positions in peacetime."

This is the fatal flaw in the concept of a "free world industrial base," a term that is being substituted in some circles for the older American role as the "arsenal of democracy." Economic integration will lead to political paralysis. It is an old adage that a council of war never fights; that without strong leadership, an alliance will be guided by its most timid members in the direction of appeasement. Japan and the European states already seek diplomatic checks on

American actions, and their influence will increase as their economic leverage grows. Even without overt disagreements within the alliance, U.S. actions could be curtailed simply because its allies lacked the needed capacity or were unwilling to shift resources from other uses to meet American needs. Also, to shift strategic industries overseas is to move them closer to potential combat zones where they risk destruction by direct or covert attack.

American defense industries must already face the challenge posed by the economic integration of Europe planned for 1992. The trend towards multinational European defense projects will accelerate, and the purpose of European integration is primarily protectionist. Former British MP Jeffrey Archer recently said, "The Europeans could not fight among themselves and still fight Japan and the United States." To create a true common market large enough to sustain European industry, it can be expected that a strong bias will exist to "buy European" rather than American. Several European study groups have already made suggestions along these lines. As former Deputy Undersecretary of Defense Dov S. Zakheim has written, "At stake is nothing less than the preservation of both American defense industrial competitiveness within the boundaries of Europe and America's ability to compete with European firms for third country markets worldwide."

The United States has consistently run trade surpluses in military equipment with Europe. Defense is one of the few areas of manufacturing that still shows a surplus during a decade when the U.S. shifted to a net trade deficit country. Also, in regard to the F-16 itself, one of the keys to its success has been large export sales to Europe (60 to Norway, 58 to Denmark, 160 to Belgium, 124 to Holland, 160 to Turkey), as well as smaller sales to Pakistan, Singapore, South Korea and Egypt. It had been hoped that the upgraded F-16 (the F-16XL or Agile Falcon) would be a

serious competitor to the French ACS Rafale and EFA "Eurofighter" in the export markets of the mid-1990s and beyond. There is also hope for future sales of the F-18C (Hornet). Spain has ordered 72 and the French Navy is reported to prefer it to the ACS Rafale.

Export markets outside Europe are also shrinking due to the collapse in oil prices and Third World debt. Price competition based on economies of scale from large production runs and offset arrangements will be critical factors in future export strategies. Offset agreements that require increased imports from customers to compensate for military exports will be difficult to accept politically if the U.S. continues to run large trade deficits. And, reduced exports will become reinforcing if lower production runs push up per-unit prices. Much of the European defense industry is already export-dependent, and it should be expected that a Japanese defense industry will also be export-driven, given its small domestic demand. It would not be surprising if a Japanese-built FS-X itself became a direct competitor to future American designs.

The United States provides a significant share of Japan's air defenses today. With two air wings (U.S. Air Force and U.S. Marine Corps) and a carrier home-ported in Japan, two Air Force wings in South Korea and additional carrier battlegroups in the Pacific, the U.S. has more combat aircraft available in the Northern Pacific than does Japan. It should not be unreasonable to require that Japan partially offset this American commitment (as well as Japan's large trade surplus with the U.S.) by the purchase of American weapons systems for its own forces. It also makes good military sense for allies to field the same systems to improve maintenance and logistical efficiency.

It is strategic considerations such as these that require government review of agreements between American defense firms and foreign entities. Individual firms are primarily concerned

with their bottom lines. Undoubtedly, General Dynamics feels that it will make money from the current arrangement with Mitsubishi. However, where national security is concerned, private gain and public interest are not automatically the same thing.

The Congress of the United States has a responsibility to place private agreements in a larger national perspective and to carefully consider long-term effects of current decisions. It is the hope of the U.S. Business and Industrial Council that when Congress completes its review, it will conclude that the current arrangements governing FS-X development are not in the national interest of the United States, Congress should continue to closely monitor and continue to voice its objections concerning this project until new, more acceptable arrangements are negotiated. Thank you.

Senator BINGAMAN. Thank you very much.

Let me ask just one question, Mr. Bursk. Much has been said about how we can expect significant technology flowback as a result of this FS-X agreement. I would be interested in knowing your experiences or views as to the reasonableness of that expectation. I have been advised that we have not seen a substantial amount of technology flowback from the Japanese. Your own company, Raytheon, has, I believe, been involved in transferring the Patriot air defense missile technology. Have you experienced any flowback of technology or know of flowback of technology from the Japanese in any of these areas that would justify an expectation that it would occur here?

Mr. BURSK. Yes. I would be happy to comment on that.

With respect to our own programs in Japan, at the stage and at the time that they have been released, reverse technology flow has not been relevant. We have not released to Japan programs that were leading-edge technology at the time. So their participation in those, from a production standpoint and a technical standpoint, was not expected to produce flowback.

However, the relationships that we have with the companies that have been involved in those programs are, I think, going to lead us to substantial technology flowback in the future. One of the great merits of being involved in a program from the inside, as opposed to looking from the outside, is that you do get a chance to exchange views with the technical people on both sides, and it gives you a much better insight into what the technology is that they are working on and that you might have access to for future programs. So I am hopeful that, in the future, there will be technology flowback.

I tend to agree with what Mr. Auer said earlier about the slowness of the development of the flowback agreement that the United States has with Japan. I think U.S. industry has been slow to take advantage of that. But, then, analysis and negotiations take a great deal of time, and the exchange program really has only been in effect for 2 or 3 years. I am encouraged to think that it will be productive.

Senator BINGAMAN. Do you believe that there are opportunities to obtain leading-edge technology in Japan in the aerospace industry that we are not taking advantage of?

Mr. BURSK. Well, that I think we are beginning to. There have been several, I think, very constructive study groups that have gone from DOD with U.S. industry participation to survey various technology areas, my company is, and I know many others are, taking advantage of the groundwork that those study groups did and establishing our own connections in Japan to look at technology flowback.

Senator BINGAMAN. I appreciate very much your point of view and appreciate your testimony. I hope we are not back here in 8 or 10 years wishing this were not part of the official record.

Thank you all very much. I think this has been a useful hearing.

Mr. BURSK. Thank you, Mr. Chairman.

Mr. HAWKINS. Thank you, Mr. Chairman.

Senator BINGAMAN. Letters from other concerned sources regarding the FS-X will be included in the hearing record at this point.

[The letters referred to follow:]

THE AD HOC COALITION TO RECONSIDER FS-X,
Washington, DC, March 9, 1989.

Senator JEFF BINGAMAN,
Chairman, Subcommittee on Defense Industry and Technology, Senate Armed Services Committee, Washington, DC.

DEAR MR. CHAIRMAN: On February 22, 1989, a group of broad-based business leaders, labor organizations, interest groups and other prominent citizens formed the "Ad Hoc Coalition to Reconsider FSX."

The ad hoc group was formed to help complement and coordinate widespread efforts to focus greater public scrutiny on the co-development project.

The FSX issue essentially involves the transfer of approximately \$7 billion worth of U.S. aircraft technology to the Japanese, which many believe will contribute significantly to the development of Japan's aerospace industry.

The objective of the "Ad Hoc Coalition to reconsider FSX" is twofold: First, to focus public attention on the public policy concerns raised by the FSX co-development program through press and grass roots outreach. And, secondly, to support congressional efforts to delay the administration's approval of the program until a comprehensive review of the proposal is conducted by the appropriate executive branch agencies and congressional committees.

The coalition applauds those members of Congress who have supported resolutions urging the President to "examine closely the program's long-term impact on the health and competitiveness of the United States aerospace industry."

The coalition also applauds those administration officials, particularly Commerce Secretary Robert Mosbacher, who helped to formulate the administration's actions to delay approval of and possibly modify the FSX program.

The coalition welcomes any constructive support in promoting these endeavors.

Finally, we wish to thank the chairman for his leadership in holding today's hearing on this critical issue.

Sincerely,

JOHN P. CREGAN,
Director,
ALVIN M. GUTTMAN,
Attorney-at-Law.

AMERICAN ELECTRONICS ASSOCIATION,
Washington, DC, March 14, 1989.

Hon. JEFF BINGAMAN,
U.S. Senate, Washington, DC.

DEAR SENATOR BINGAMAN: As requested by Senate Armed Services Committee staff, enclosed is background information on the American Electronics Association's position on the FSX agreement. We trust that this can be included in the written record of your subcommittee's hearings on the FSX.

We were unable to testify at the hearing last Friday, 10 March, because of a previously scheduled board meeting.

AEA represents about 3,500 advanced technology companies throughout the United States.

The subcommittee you chair on industry and technology has a great deal to contribute to the health of the U.S. industrial base, and we look forward to working with you and other members of the subcommittee in the future.

Thank you for your consideration.

Sincerely,

J. RICHARD IVERSON,
President and CEO.

AMERICAN ELECTRONICS ASSOCIATION,
Washington, DC, March 13, 1989.

Hon. ROBERT A. MOSBACHER,
Secretary of Commerce, U.S. Department of Commerce, Washington, DC.

DEAR MR. SECRETARY: We want to express our concerns about the U.S. agreement with Japan on the FSX. While we are pleased that the Administration has been reviewing the agreement, we want to make you aware of some of our most serious reservations, including:

The implications of the low U.S. electronic content in the FSX;

Benefits to Japan's commercial aerospace industry resulting from the technology transfer aspects of the deal, creating a stronger competitor to the U.S. commercial aerospace industry;

Lack of consultation with both the Department of Commerce and the United States Trade Representative;

Questions about whether the Defense Department will exercise whatever leverage is remaining (licensing of production of the engines, for example) to ensure that Japan does not benefit even more substantially than the letter of the agreement allows;

Fears that the U.S. may not adequately protect proprietary U.S. technology, such as sensitive software source codes; and

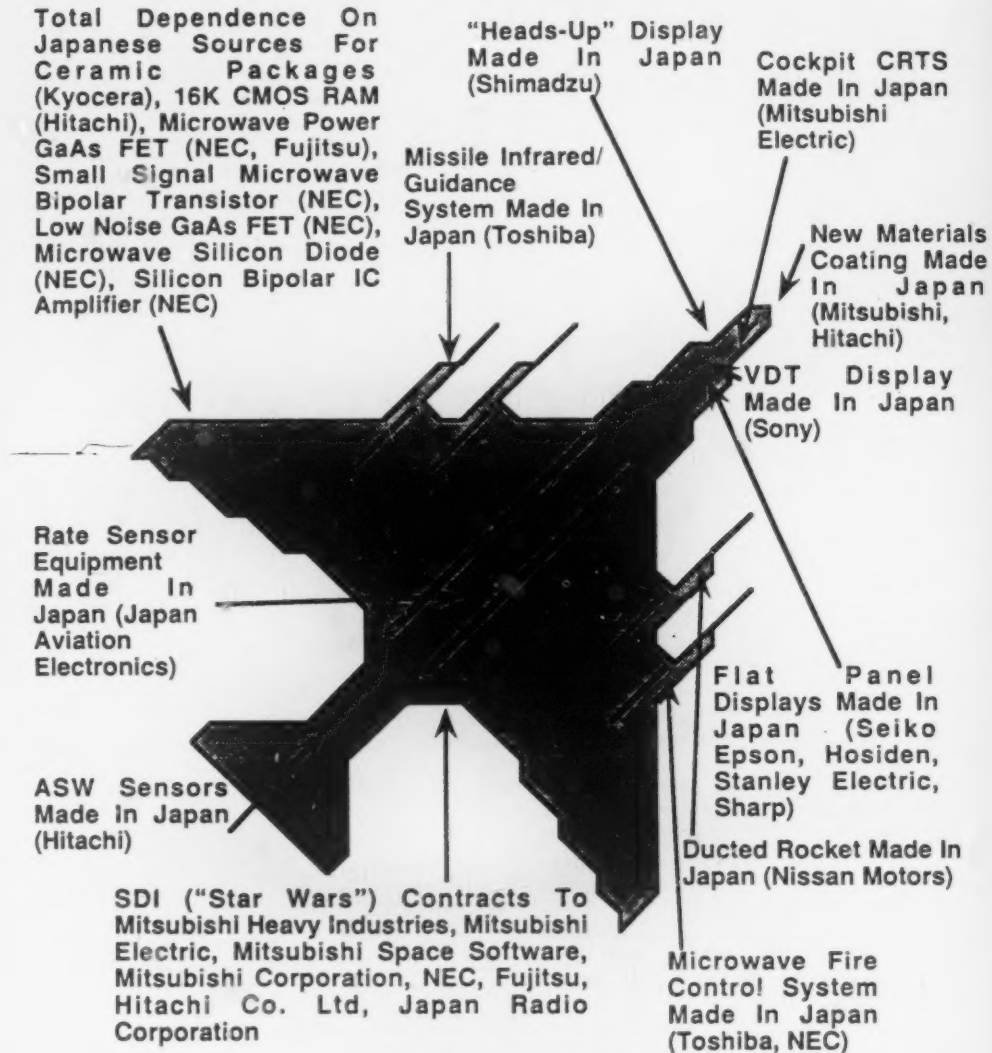
The agreement will accelerate Japan's entry into avionic systems since the U.S. electronic content is so low.

Above all, the American Electronics Association believes that both Commerce and USTR must be integral players in such negotiations in order to assess such agreements from the perspective of long-term U.S. competitiveness.

Sincerely,

J. RICHARD IVERSON,
President and CEO.

American Defense Capability: Made In Japan?



AEA Japan Office

(Source: Report of the Defense Science Board Task Force on Defense Semiconductor Dependency, February 1987; Electronic Business, January 23, 1989; Nikkan Kogyo Shimbun, December 15, 1988 p.13 -- presence of all of above technologies in single airplane unlikely, some manufacturers uncommitted)

[Press Release]

WASHINGTON, DC, March 14.—The American Electronics Association (AEA) announced today that its Board of Directors voted to oppose the U.S./Japan FS-X agreement to co-develop a fighter aircraft.

The agreement includes the transfer to the Japanese of some \$7 billion of U.S. aircraft technology.

AEA believes that the pact is against the economic interests of the United States and would injure the long-term competitive position of U.S. commercial aerospace manufacturers and the American electronics industry.

"We are giving Japan the missing pieces to a jigsaw puzzle permitting them to take us on in one of our remaining competitive industries," AEA President J. Richard Iverson argued. "Further, the current arrangement provides no real benefit to the American electronics industry. In fact, it will accelerate the Japanese as competitors in the world avionics arena. We would find U.S. companies disadvantaged in competing for avionics in U.S. military aircraft by this agreement."

Iverson added, "The proposed technology transfer from Japan to the U.S. on radar and other electronic areas will hurt the electronic trade deficit," which remains over \$20 billion despite the decline in the value of the dollar vs. the yen. "We urge Japan to purchase the advanced avionics available from U.S. industry in order to reduce our significant trade imbalance with Japan," said Iverson.

In a letter to Secretary of Commerce Robert Mosbacher and acting Defense Department Secretary Will Taft, AEA President Iverson expressed AEA's reservations with the deal, including:

The lack of Defense Department consultation with the Department of Commerce and the United States Trade Representative;

Benefits to Japan's commercial aerospace industry resulting from the technology transfer aspects of the deal, creating a stronger competitor to the U.S. commercial aerospace industry;

The low level of U.S. avionics and electronic content in the aircraft; and

Fears that the U.S. may not adequately protect proprietary U.S. technology, such as sensitive software source codes.

AEA applauded the Administration's decision to review the FS-X agreement. "However, the jury is still out on whether the review has been comprehensive enough," stated Iverson. "Such agreements must be assessed from the perspective of long-term U.S. competitiveness . . . handing Japan the final pieces in the jigsaw puzzle moves us in the opposite direction."

The American Electronics Association represents some 3,500 firms in high technology concentrations throughout the country. For more than 45 years AEA has been the accepted voice of the U.S. high technology industry.

Senator BINGAMAN. This hearing is concluded.

[Whereupon, at 12:45 p.m., the subcommittee adjourned, to reconvene upon the call of the Chair.]



IMPLICATIONS OF THE FS-X AIRCRAFT AGREEMENT BETWEEN THE UNITED STATES AND JAPAN

TUESDAY, MAY 9, 1989

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON DEFENSE INDUSTRY AND TECHNOLOGY,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:32 p.m., in room SR-222, Russell Senate Office Building, Senator Jeff Bingaman (chairman of the subcommittee) presiding.

Committee members present: Senators Bingaman, Levin, Dixon, Glenn, Gore, Wirth, Shelby, Byrd, Warner, Thurmond, Cohen, Wilson, Wallop, Lott, and Coats.

Professional staff members present: Richard D. Finn, Jr. and David S. Lyles.

Minority staff members present: Romie L. Brownlee, deputy staff director for the minority; Jonathan L. Etherton, Judith A. Freedman, George W. Lauffer, Durwood W. Ringo, Jr., and Mark B. Robinson, professional staff members.

Staff assistants present: Tiffany E. Berger, Lori M. Jackson, Mary J. Kampo, and Kelli J. Pronovost.

Committee members' assistants present: Kenneth N. Luongo, assistant to Senator Levin; William J. Lynn, assistant to Senator Kennedy; Edward M. McGaffigan, Jr., assistant to Senator Bingaman; Charles C. Smith, assistant to Senator Dixon; Milton D. Beach and Patricia J. Buckheit, assistants to Senator Glenn; Leon S. Fuerth, assistant to Senator Gore; Jefferson B. Seabright, assistant to Senator Wirth; C. Richard D'Amato, assistant to Senator Byrd; James M. Bodner, assistant to Senator Cohen; Anthony H. Cordesman, assistant to Senator McCain; Jack D. Crouch II, assistant to Senator Wallop; Charles Percy, assistant to Senator Lott; and Eric H. Thoemmes, assistant to Senator Coats.

OPENING STATEMENT OF SENATOR JEFF BINGAMAN, CHAIRMAN

Senator BINGAMAN. The Defense Industry and Technology Subcommittee meets this afternoon to hold its second hearing on this FS-X aircraft agreement between the United States and Japan.

Almost exactly 2 months ago the subcommittee took testimony on the FS-X agreement from six private witnesses. At that time the executive branch was conducting an interagency review of the agreement that had been negotiated by the Reagan administration.

As we all know, that review led to lengthy and difficult discussions with the Japanese Government which, in turn, have now resulted in clarifications to the original agreement.

When I convened the first FS-X hearing, I said that I had strong reservations about the agreement that had been proposed by the previous administration.

Now, after almost 3 months of hard work, it appears that President Bush had made major improvements in the agreement.

One of the purposes of today's hearing is to learn more about the improvements from the administration. In particular I will be very interested in determining whether or not the agreement now satisfies the concerns that were raised within the Armed Services Committee a year ago.

In May 1988, this committee took the position, and I quote, "That U.S. officials should ensure that before export licenses are issued for detailed F-16 aircraft technical data, agreed U.S. participation in the co-development and co-production provides meaningful work share for U.S. industry on the FS-X F-16 airframe, and that Japan flows back expeditiously and without charge any technological improvements substantially derived from technology provided by the United States." That is the end of the quotation.

From the defense bill that we passed last year, I believe that the committee's criteria are still relevant to our consideration of the agreement that President Bush has submitted.

Another significant legislative milestone that bears on the current FS-X debate is the provision of law that we initiated last year to guarantee the Commerce Department a role in the negotiation of arms cooperation agreements.

This legislation which is on the books requires the executive branch to recognize that these defense agreements often have important commercial implications.

I want to commend President Bush for adapting the spirit and letter of this law in the interagency FS-X review that he directed.

The result is an obviously stronger and more reciprocal agreement. If it is not disapproved by the Congress, the next challenge for the executive branch will be to implement it effectively and fairly. This will be critical when negotiations for the production MOU are conducted in a few years. Problems in implementing the development MOU could cause problems when the production MOU is presented to Congress.

To follow up on the interagency process that we legislated in 1988, I have joined Senator Danforth and Senator Byrd in sponsoring a bill that would further elaborate on that legislation.

I understand that the administration itself is prepared to institutionalize a role for the Commerce Department in future co-development and co-production agreements.

During this afternoon's hearing, we want to explore the interagency process that could be used to carry out the FS-X project and to negotiate and implement similar agreements in the future.

We want to welcome our witnesses today at the hearing. The first witness will be Senator John Danforth of Missouri who has taken an active and longstanding interest in the FS-X issue. We appreciate very much the time that he has given us in this area and that we have the benefit of his expertise.

Let me just say that in July 1986, I joined with Senator Danforth and Senator Byrd in amending the Omnibus Trade Act to express the sense of the Senate that Japan would buy an off-the-shelf U.S. aircraft.

Most recently I was pleased to cosponsor his bill on the future role of the Commerce Department in arms cooperation agreements.

Senator Danforth, why do you not go ahead with your testimony.

Before you do, let me defer to the ranking member here, Senator Wallop, for any opening statement that he would like to make.

Senator WALLOP. Mr. Chairman, thank you, and thank you for holding this hearing.

I think it is important that the administration be given the opportunity to respond to a great deal of misinformation that has been circulating for the past few months about this FS-X agreement.

To that end, I am pleased to see that you have gathered up a very distinguished interagency panel as well as a distinguished colleague, and I look forward to these pieces of testimony.

Let me begin by briefly recapping the history of this agreement.

It seems to me as I look back over the course of events, that every stage in the process has been characterized by the unwillingness of opponents of the FS-X arrangement to take yes for an answer.

Initially the Japanese wanted to domestically produce the FS-X and the Reagan administration Members of Congress strongly objected to that approach and persuaded the Japanese to an agreement to enter into the cooperative venture with the United States.

Last year as a part of its report on the fiscal year 1989 budget, this committee included language specifying provisions that should be included in an FS-X MOU. An MOU signed in November 1988 embodied those recommendations.

In January of this year a number of Senators wrote to President Bush urging him to conduct an interagency review of the FS-X agreement to include the Commerce Department and the U.S. Trade Representative. The President agreed to conduct such a review.

In March under continued pressure from critics, President Bush announced his intent to proceed with the FS-X agreement pending Japanese acceptance of certain clarifications.

In April the Japanese agreed to these changes, and some still are not satisfied.

In my opinion, the administration is to be commended for negotiating an excellent further provision to this agreement which balances both the economic and national security interests of the United States.

From an economic point of view, this agreement guarantees the United States a 40 percent work share during both the development and production phases of the FS-X project. This 40 percent share translates into at least \$2.5 billion in business and 22,700 man-years of work for United States industry.

In addition, the United States will benefit from the flowback of any advanced Japanese technology developed during the course of the project.

From a national security standpoint, this deal will do the most to improve Japanese air self-defense capabilities thereby reducing the burden of the United States by providing the Japanese with an aircraft superior to both current U.S. fighters and any possible indigenous Japanese aircraft.

Despite the fact that we now find ourselves in an era of glasnost, Soviet military capabilities in the Pacific continue to grow, and the threat that the FS-X is designed to counter is a real one.

We seem to be losing sight of the fact that Japan is our closest ally in the Pacific. The United States is committed by treaty to the security and defense of Japan. Therefore, it is in our interest for Japan to have a modern, well equipped military force, and this agreement contributes to that goal.

Despite the criticisms we have heard about Japanese defense efforts, we should keep in mind that the Japanese are currently the third largest defense spender in the world with a record of increasing their defense budget in real terms by approximately 5 percent each year over the past decade.

In addition, the Japanese contribute over \$2 billion a year to support U.S. forces stationed in Japan. The argument made by some that Japan is not concerned with its own defense simply does not stand up under scrutiny.

I think it is also important for us to consider what the alternative would be to the current agreement. An off-the-shelf purchase of F-16s is not and has not been an option. The Japanese have never seriously entertained that possibility and, in my opinion, it is hard to fault them for taking such a position.

This is a trend that is seen worldwide as nations increasingly refuse off-the-shelf purchase of foreign defense equipment, including the United States refusing off-the-shelf purchases as we did with the British Harriers and the Italian Berettas and insist instead on performing a proportion of the work to be performed at home.

We have seen this happen with our NATO allies a number of whom are co-producing the F-16, the very airplane in question. We are not immune from this trend here in the United States.

The only viable alternatives to the current FS-X agreement are domestic Japanese production of a fighter, one which they have shown themselves capable of doing, or, more likely, Japanese co-development and co-production with European competitors.

With this latter option, European companies will not only get the \$2 to \$3 billion in business that would otherwise have flowed to the United States, the Europeans will also receive the advances in Japanese technology that result from the project as well as make deep inroads into the Japanese military market from which to obtain possible future defense contracts with Japan.

It is really important to keep in mind that by rejecting this agreement at this late date and after the President has gone the extra mile to clarify important aspects of it, we threaten not only the FS-X deal, but all future defense sales to Japan, and that is a serious threat.

The United States concurrently enjoys a virtual monopoly on defense trade with Japan; 95 percent of all Japanese purchases of foreign defense equipment comes from the United States. In 1988 the

Japanese purchased over \$1.5 billion in defense items from the United States, and that represents more than the combined purchases of Great Britain, France, and Italy, all of whom have significant purchases by us, so the balance is even greater.

By contrast, the United States buys practically nothing from Japan, an approximate \$90 million worth of components. We will less threaten the entire defense relationship to say nothing of our overall relationship with Japan if the United States is proven through this process to be an unreliable trading partner.

Opponents of the FS-X deal argue that if FS-X co-development will be a catalyst, the emergence of Japan as a major competitor for the U.S. aerospace industry is obvious.

Leaving aside the fact that the U.S. aerospace industry supports this deal—and surely it is in the best position to know if this deal will create a competitor—the best way to ensure Japanese competition is to reject this agreement.

Should the United States allow the Japanese and Europeans to marry their resources with no U.S. control of the project, it is certain a formidable competitor to the United States will emerge.

By contrast, I am hard-pressed to find any disadvantages for America in this proceeding.

I urge my colleagues to join in supporting this deal and look forward to the testimony. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Senator Danforth, we are pleased to have you here.

STATEMENT OF HON. JOHN C. DANFORTH, U.S. SENATOR FROM MISSOURI

Senator DANFORTH. Mr. Chairman, thank you very much.

For 6 months I have been wondering why Senator Wallop left the Finance Committee to join the Armed Services Committee, and I have come to the conclusion that it has to do with the splendor of the hearing room. [Laughter.]

Mr. Chairman, I do appreciate the opportunity to testify before your subcommittee. My intention is to talk less about the details of the agreement than about the way in which the agreement was brought about.

I do have a prepared statement, and I also have a floor statement that I made some time ago, and I would ask that they be included in the record.

Senator BINGAMAN. We will include them in the record.

Senator DANFORTH. Mr. Chairman, it seems to me that one of the most important considerations before us is who is going to be responsible for negotiating memoranda of understanding either with Japan or with any other country with respect to sensitive technologies.

I think that the key problem with the FS-X deal was that when it was first negotiated during the Reagan administration with the Government of Japan, it was negotiated exclusively by the Defense Department and by the State Department. There was no input whatsoever from any department or agency of the Federal Government that has any interest in the competitive future of American industry.

The Commerce Department played no role whatsoever. The U.S. Trade Representative played no role whatsoever. It was a DOD operation. DOD entered into this agreement for the United States. It did so against a background of a clear statement by Japan that the aerospace industry was targeted as a core technology of the 21st century.

In other words, it was absolutely clear and it was a matter of public record that the Government of Japan intended to set itself up in the aerospace industry and despite that clear statement, no agency, no department of our executive branch with any responsibility for looking out for the competitive future of our country had any role whatsoever to play in negotiating this arrangement.

In December, Congress passed the defense authorization bill and included in the defense authorization bill was at least the beginning of an awareness on the part of Congress that the bill was simply inadequate for international agreements relating to the competitive future of our country in high technological areas to be worked out by DOD alone.

The defense authorization bill of last year provided that the Department of Defense should consider the competitive position of the United States and should consult with the Commerce Department.

However, the whole thrust of that legislation was to the effect that the Commerce Department would be waiting by its telephone for any call that might come its way from DOD, and I think that that is wrong. That is why several of us, including you, Mr. Chairman, and Senator Byrd and others introduced earlier this year S. 578.

S. 578 is intended to enhance the role of the Commerce Department so that henceforth instead of being simply reactive to any calls that might come in from DOD, Commerce would have an up-front position with respect to analyzing and reviewing memoranda of understanding, and that really is the main point that I would like to put to you, Mr. Chairman.

I think that it is very important for us to assure ourselves that what happened with respect to the FS-X does not happen again.

My own feeling with respect to this particular transaction is that it is a little bit late. I think that Congress is going to end up agreeing to it. I think that to the credit of Bob Mosbacher, in particular, with the new administration they were able to reopen the details of the transaction. They were able to improve the situation, at least somewhat, and my own view is that it is a little late to pull the rug out from under them.

But there is no assurance whatsoever that those same problems we got into when this agreement was negotiated in the first place will not be repeated again and, as a matter of fact, at lunch today when the Republican Senators met for lunch with Secretary Cheney and Secretary Mosbacher, they were asked what kinds of agreements, if any, exist with the new administration for input from Commerce or from USTR about future memoranda of understanding because there will be future memoranda of understanding.

And while the words were reassuring, it was clear in listening to the comments of Secretary Cheney and Secretary Mosbacher that there really is no clear definition of our role for the Commerce De-

partment; that the role of the Commerce Department, if any, exists at the sufferance of the Department of Defense, and that it was hoped that the FS-X agreement, at least the Bush administration's participation in reanalyzing the FS-X agreement, would be the pattern for future cooperation on future MOUs.

But there is no assurance whatsoever to that effect and for that reason, Mr. Chairman, I believe that it is absolutely essential that we in Congress enact either S. 578 introduced earlier this year or something very close to S. 578.

I do not think that it is in the best interests of the United States for us to go into business deals with other countries that have targeted key industries of the United States without any kind of participation by those agencies of our Government that have the responsibility or should have the responsibility to look out for the competitive future of America.

[The prepared statement and floor statement of Senator Danforth follows:

PREPARED STATEMENT OF SENATOR JOHN C. DANFORTH

Mr. Chairman and members of the committee. I want to thank you for the opportunity to appear before you today to discuss the proposed FS-X deal with Japan and the Danforth-Byrd legislation on defense-related Memoranda of Understanding (MOUs).

Unless I misjudge the situation, the FS-X agreement with Japan is a done deal. The time for negotiating—and for “clarifying” what was negotiated—is over. Regardless of one’s judgement of the substance, I believe we are now in the position of choosing between two bad alternatives. We can approve an agreement which may well give Japan a significant boost in the development of its own aerospace industry, with uncertain returns for the United States. Or, in the alternative, we can reject the deal at the risk of having Japan build its own fighter or turn to the Europeans, at significant cost to the Bush Administration in the area of foreign policy.

In my mind, the paramount issue is no longer whether the agreement is good or bad. I believe we are stuck with it. I believe we should focus on the process by which this deal was negotiated. This process was fundamentally flawed. Until the eleventh hour, the lead agencies—the Departments of Defense and State—failed to take into account the long-term impact of the agreement on the health and competitiveness of the U.S. aerospace industry. The Department of Defense did not consult with industry experts at the Department of Commerce, at USTR, or anywhere else about the commercial implications of the agreement. It is my understanding that Commerce Department experts were not even permitted to see the terms of the agreement until very late in the game, after the time for meaningful input into the process had passed.

To its credit, the Bush administration had the will to revisit this agreement before sending it up for Congressional approval. The administration recognized that certain aspects of the agreement had to be clarified in order to ensure that our commercial interests were not totally ignored. They insisted rightly that these issues be resolved and that a Commerce Department representative be an active participant in this process. As a result, the agreement has been improved somewhat.

We are now faced with the basic question: Should the Commerce Department be in or out of this process? I believe the Department has a critical role to play and should be in. The real question, then, is whether Commerce is to be involved in a haphazard, unpredictable last-minute fashion, or whether it is to be involved up front, under a clear policy that ensures sufficient consideration of our strategic commercial interests. I believe it should be the latter.

Unfortunately, to my knowledge, we have today absolutely no assurance that a debacle similar to FS-X won't occur in the future. I have reviewed the record of the Administration's statements on FS-X. This record provides absolutely no evidence of any written assurance that this will not happen again. My concern is that in six months it will be business as usual, with the Department of Defense, and the Department of State, again totally dominating the terrain. This country's strategic commercial interests are too important to be plowed under once again.

I firmly believe that the Department of Commerce must take the lead in assessing the trade and competitiveness implications of agreements involving technology transfer in leading edge industries. In the future, the Departments of Defense and State should be required to keep Commerce actively involved throughout the MOU negotiating process.

For this reason, in mid-March I joined Senator Byrd and eight of our colleagues in introducing a bill aimed at preventing any recurrence of the policymaking gap which plagued the FS-X deal. The legislation would establish a key role for Commerce in determining whether proposed and existing military technology transfer agreements adversely affect the international competitive position of U.S. industry. As I mentioned a few moments ago, I applaud the Bush administration's decision to review the terms of the proposed FS-X agreement before sending it up to Congress. But we cannot be in the business of negotiating these agreements and then reviewing them after the fact. A rushed review after the fact is in some ways worse than scant interagency consultations during the process. Neither alternative is acceptable.

The Danforth-Byrd bill would build on a provision included in the fiscal year 1989 Defense Authorization Act so that in future agreements, U.S. strategic commercial interests are accorded a greater weight by our negotiators. Where the existing provision has been interpreted as little more than a vague consultation requirement, however, the Danforth-Byrd bill would mandate that the Commerce Department play an active role in the negotiation, renegotiation and implementation of MOUs involving the research, development and production of defense equipment. It would ensure that we will never again find ourselves in a position of having to consider after the fact whether a deal will have a significant adverse impact on the competitive position of American industry.

I firmly believe that the economic security of this nation—our ability to remain a vibrant, successful, and pivotal player in an increasingly competitive global economy—must be one of the highest priorities driving our policymaking process. Now more than ever, we must be mindful that our strategic commercial interests are not unnecessarily eclipsed by foreign policy and defense considerations. I believe the Commerce Department has an important role to play in promoting that balance of interests in the negotiation and implementation of MOUs involving research, development, and production of defense equipment, and that is the rationale behind the Danforth-Byrd legislation.

I appreciate the opportunity to have presented my thoughts on these matters to the Committee. I would ask that this statement, as well as a copy of my floor statement on the day the Danforth-Byrd legislation was introduced, be submitted for the record. Thank you very much.

[From the Congressional Record, Mar. 15, 1989]

SENATE

By Mr. Danforth (for himself, Mr. Byrd, Mr. Bingaman, Mr. D'Amato, Mr. Heinz, Mr. Hollings, Mr. Rockefeller, Mr. Dixon, and Mr. Ford):

S. 578. A bill to amend title 10, United States Code, to provide for consideration of whether certain defense agreements adversely impact the international competitive position of U.S. industry; to the Committee on Armed Services.

RESEARCH, DEVELOPMENT, AND PRODUCTION OF DEFENSE EQUIPMENT

Mr. DANFORTH. Mr. President, one of the issues that is very much before the country today relates to the agreement that has been negotiated by the Department of Defense and the Government of Japan with respect to the codevelopment and coproduction of a new fighter aircraft which is known as the FS-X.

Serious questions have been raised about the advisability of the United States entering into that agreement. Today discussions have been held by the National Security Council with respect to the FS-X agreement.

Senator Byrd has taken the position and, in fact, offered an amendment to the trade bill relating to the FS-X, and his amendment was agreed to by a vote of 96 to 0.

Many of us, for a period of years, have been urging Japan to purchase a new fighter aircraft from the United States.

We have taken the position that if the law of comparative advantage means anything at all, surely it means that where the United States produces the best product of its kind in the world, that product should be purchased. And yet, Japan has de-

clined to purchase an American fighter aircraft and has insisted on codeveloping and coproducing a whole new product at considerable cost to their country.

What is curious about the whole process is that the agreement with Japan was negotiated by the United States Department of Defense without any input whatever by the Secretary of Commerce. It is that particular aspect of the arrangement that is addressed by the legislation that we have just introduced.

The thrust of this bill, Mr. President, is that henceforth the Secretary of Commerce will have a role to play in determining whether technology relating to defense is to be transferred to another country, and to assure that the future of key industries where the United States has an advantage with respect to technology is taken into consideration in any further negotiations with Japan or any other country. Under this bill the Secretary of Commerce henceforth will be consulted. The Secretary of Commerce will have a role to play in making suggestions to the President of the United States—suggestions to the President that an agreement not be consummated or that an agreement once consummated be renegotiated.

I think that this is a necessary response to the FS-X agreement. I think that it is absolutely necessary to assure ourselves as a country that where we maintain a competitive advantage in high-technology areas we do not give away that advantage. We must ensure that the representative in our Government with particular expertise in maintaining a forceful position in the United States be consulted in any future agreements.

Mr. President, today I am pleased to be joined by eight of my colleagues in introducing legislation to enhance the Commerce Department's role in the negotiation and implementation of Memoranda of Understanding [MOU] involving research, development, and production of defense equipment.

This legislation is borne out of concern about the way our Government has handled United States participation in Japan's Fighter Support Experimental [FS-X] project. From the outset of public discussions about Japan's proposed new fighter aircraft, there has been a troubling lack of attention paid to the trade and commercial implications of this project for the United States. The legislation I am introducing today is aimed at preventing a recurrence of that gap in the policymaking process.

Since I first learned of the FS-X project in late 1986, I have steadfastly maintained that, if Japan's primary aim was to upgrade its fighter defense forces with the best available products and in the most cost-effective manner, then it should purchase American planes off the shelf instead of developing an indigenous fighter.

Though we are long since past the question of United States planes versus an indigenous Japanese fighter, I think it is important to review the arguments. The case for buying American was so clear cut as to make any alternative decision seem almost ridiculous. What better way to accomplish several major objectives—upgrade Japan's fleet in a cost-effective way, maintain interoperability of United States and Japanese forces, and reduce trade tensions—than to acknowledge America's comparative advantage in aerospace and buy the best available products from the United States? The standard Japanese assertions as to why they don't buy more American products—that their products are technically superior, of higher quality, more price competitive, and better able to meet their required specifications—just don't hold water when it comes to aerospace. The United States is the acknowledged leader in aerospace manufacturing and technology. We build the best, most advanced aircraft in the world, period. Technologically, our aircraft are the most sophisticated models available. They are cheaper to maintain and require fewer manhours of servicing than any others. Our designs are well tested and have a proven track record. In short, on the issues of technological sophistication and quality, the United States is No. 1.

As for meeting Japanese specifications, I would only point out that they initially laid out certain requirements concerning the aircraft's ability to take off fully loaded from a very short runway under extreme weather conditions—which did not accurately reflect the demands likely to be placed on the aircraft. In other words, our aircraft—the most advanced fighter in the world—surely could have met Japan's needs.

With respect to cost, Japan has often argued that it cannot stimulate its domestic economy because of its large budget deficit. If they were truly interested in redressing their deficit, then the Japanese should have decided without hesitation to purchase United States fighters at approximately half the cost of developing an indigenous fighter.

Finally, the Japanese have argued that aggressive market-opening efforts on their part would have a de minimus impact on United States exports. Yet an outright purchase of U.S. planes, estimated to be approximately \$4 billion, surely would have

had more than a "de minimus impact" on our bilateral trade deficit and would have gone a long way toward defusing the persistent trade tensions between the two countries.

For all of these reasons, I was convinced that every effort must be made to press Japan to buy our airplanes instead of having them build their own. I spoke at length with former Prime Minister Nakasone and other Japanese officials, as well as with our Secretaries of Defense, State, and Treasury and the National Security Adviser, in an effort to convince them of the importance of the issue as a trade matter. In addition, I was the principal cosponsor of Senator Byrd's amendment to the trade bill that instructed the Defense Secretary to press the Japanese to purchase American aircraft. That amendment was adopted in July 1987 by a vote of 96 to 0, a clear signal of congressional support for an outright purchase of American aircraft.

Despite all of these arguments and despite the overwhelming evidence that our aircraft are the best available, Japan simply chose to ignore our comparative advantage in aerospace and flatly refused either to buy our planes off the shelf or to license produce them. Why? Because, in truth, Japan's primary aim is not to simply upgrade its fighter defense forces in the most cost effective manner. Instead, its primary intention is to develop its own viable aerospace industry. Japan has targeted aerospace as one of its "core technologies" for the 21st century and in traditional fashion, has mapped out a combination of import protection and massive subsidies to enable the industry to develop. The pattern is so obvious and so reminiscent of Japanese behavior with respect to other industries such as consumer electronics and semiconductors that I am amazed it didn't set off alarm bells in more people's minds.

Responding to congressional concerns, the administration did convince the Japanese that indigenous development of the FS-X would have major adverse repercussions in the United States. But instead of holding a firm position based on commercial/trade considerations, the Reagan administration essentially decided for national security reasons to settle for half a loaf. In October 1987, Japan announced that it would permit the "codevelopment" and "coproduction" of the FS-X based on the General Dynamics F-16 fighter. From the day the collaborative project was formally announced, there has been substantial confusion about what "codevelopment" actually means. Would it be the "lightly modified F-16" or would it be a substantially transformed aircraft with little more than the "F-16 decal" remaining intact from the original American fighter?

It took more than one year of negotiations at both the government-to-government level and the industry-to-industry level to try to resolve this basic question. Unfortunately, my view is that the agreement of the development phase as drafted is fundamentally flawed. Despite the licensing and R&D charges which the Japanese will pay up front, despite a specified American percentage of the "quality workshare" during the development phase, and despite assurances of free access to technology derived from the codevelopment phase as well as the ability to purchase certain other advanced Japanese aerospace technologies, the development MOU effectively confers a net benefit to Japan by guaranteeing the transfer of F-16 technology up front without ironclad assurances that the United States will be able to participate meaningfully throughout the lifetime of the project.

The proposed agreement does provide for United States access to certain Japanese technologies, but it is not clear whether these items are or will in fact be any more advanced than that which is currently available or is being developed by U.S. manufacturers. In exchange for this promise of access to untested technologies, the United States is to provide extensive technical data on the F-16. The argument that we are providing them with 1970's vintage technology and not the most advanced versions that we have seems somewhat spurious to me since, as I understand it, whatever we provide will be more advanced than that which they already have. Since the existing MOU covers only development, there is a possibility—in my mind a very real one—that Japan will absorb this technological know-how and ultimately will lock the United States out of the production phase of the project. In short, I believe that this agreement, as drafted, sets the United States up to give far more than it will get in the long term—by materially and substantially assisting in the development of a viable Japanese aerospace industry, thereby eventually eroding our own competitiveness edge in an industrial sector of critical importance to our national security.

The flawed MOU was an unfortunate but not unsurprising outgrowth of a flawed negotiating process, during which the lead agencies—the Departments of Defense and State—failed to take into account the long-term impact of the agreement on the health and competitiveness of the U.S. aerospace industry. The Department of De-

fense did not consult with industry experts at the Department of Commerce, at the USTR, and elsewhere about the commercial implications of the agreement. It is my understanding that Commerce Department experts were not even permitted to see the terms of the agreement until very late in the game, after the time for meaningful input into the process had passed.

To redress this shortcoming, a provision was included in last year's Defense Authorization Act requiring the Defense Secretary to consider the effect of proposed MOUs on the defense industrial base of the United States and to "regularly solicit and consider information and recommendations" from the Commerce Secretary concerning these matters. Unfortunately, this provision has apparently been interpreted as little more than a vague consultation requirement rather than a mandate to consider seriously the commercial implications of such MOUs.

I strongly believe that the Department of Commerce is the appropriate agency to take the lead in assessing the trade and competitiveness implications of agreements involving technology transfer in leading edge industries. In the future, the Departments of Defense and State should be required to keep Commerce actively involved throughout the MOU negotiating process. Therefore, the legislation I am introducing today would establish a critical role for Commerce in determining whether proposed and existing military technology transfer agreements adversely affect the international competitive position of U.S. industry. I applaud the Bush administration's decision to review the terms of the proposed FS-X agreement before sending it up to Congress. But we should not be in the business of negotiating these agreements and then reviewing them after the fact—a rushed review at the end of the process is little better than scant consultations during the process. The legislation I am introducing today would build on the provision included in the fiscal year 1989 Defense Authorization Act so that in future agreements, U.S. strategic commercial interests are accorded a greater weight by our negotiators.

Mr. President, it is becoming increasingly clear that as tensions abate in the geopolitical sphere, the real issues of the 21st century will be fought on the economic battlefield rather than the military battlefield. The economic security of this Nation—our ability to remain a vibrant, successful, and pivotal player in an increasingly competitive global economy—must be one of the highest priorities driving our policymaking process. Now more than ever, we must be mindful that our strategic commercial interests are not completely eclipsed by foreign policy and defense considerations. I believe the Commerce Department has an important role to play in promoting that balance of interests in the negotiation and implementation of MOUs involving research, development, and production of defense equipment, and I am pleased to be joined by eight of my colleagues in introducing legislation to that effect.

Mr. President I ask unanimous consent that the text of this legislation be printed in the Record in full.

There being no objection, the bill was ordered to be printed in the Record, as follows:

S. 578

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2504 of title 10, United States Code, is amended to read as follows:

§ 2504. Defense memoranda of understanding and other related agreements

"(a) In the negotiation, renegotiation, and implementation of all existing and future memoranda of understanding and related agreements between the Secretary of Defense, acting on behalf of the United States, and one or more foreign countries (or any instrumentality of a foreign country) relating to research, development, or production of defense equipment, the Secretary of Defense shall regularly solicit and consider comments or recommendations from the Secretary of Commerce with respect to the commercial implications of such agreements and the potential impact on the international competitive position of United States industry.

"(b) the United States Government shall not implement such memoranda of understanding if the President, upon the recommendation of the Secretary of Commerce, finds that implementation is likely to have a significant adverse impact on the international competitive position of United States industry.

"(c) Whenever the Secretary of Commerce has reason to believe that an existing memorandum of understanding or related agreement has, or threatens to have, a significant adverse impact on the international competitive position of United States industry, the Secretary of Commerce may request a review of the agreement.

If as a result of the review, the Secretary of Commerce determines that the strategic commercial interests of the United States are not being served, the Secretary of Commerce shall recommend to the President any modification to the agreement he deems necessary to ensure an appropriate balance of interests."

Senator BINGAMAN. Thank you very much. I agree with your statement and, of course, I am cosponsoring your legislation and think it is a step in the right direction.

I do not have any questions to propound right now.

Senator Wallop.

Senator WALLOP. Mr. Chairman, I have no questions, only a caution, and that is that there is really no way through the construction of rules and requirements to make an imprudent administration prudent. But there is every way in the world to keep a prudent administration from acting with dispatch and competence by having too many constraints, and I urge caution as you go forward with such a concept.

Senator BINGAMAN. Senator Glenn, you were the first.

Senator GLENN. I am not a member of the subcommittee.

Senator BINGAMAN. Well, we are going to call on all members of the full committee who are here since we have quite a collection of non-subcommittee members.

Senator GLENN. I have no questions.

Senator BINGAMAN. Senator Wilson.

Senator WILSON. Mr. Chairman, this is a comment rather than a question. It is one that Senator Danforth has heard before, and it is really somewhat extraneous to the merits or demerits of the particular proposal before us, but it does have to do with one of the arguments that is being advanced by proponents of this agreement. We are honor bound to meet our commitment, that a deal is a deal, and that we should not in any way give rise to suspicions that America will not honor its commitments. That is a powerful argument.

On the other hand, it is one that should call for reciprocity and in the specific instance where the party to the agreement with the United States is Japan, it has, I think, particularly relevant focus.

At this very moment there is pending legislation that goes to the very sore point of the lack of commitment on the part of our Japanese allies, friends, and trading partners in terms of their failure to comply with an agreement that they had made on the subject of semiconductors.

I will say that what is sauce for the goose should be sauce for the gander, that the standard that we are being asked to adhere to is one that is not being met by the Japanese in a very important and sensitive area of technology, one indeed that threatens to drive our entire ability to go forward with high tech—not only weapons but commercial advances as well.

And I do not think that the FS-X should be viewed as a deal in isolation. I think that at least as much time should be given to considering overall relationship as to the merits or demerits of this particular proposal, and I will have to tell you that this is only the most recent of a repeated and concerted effort by members of this body who are not Japan bashers, who are not protectionists, but who are simply assertive of the legitimate rights of American exporters, and we are not being treated fairly, and I think it would be

a dereliction to allow this discussion to pass without more than taking note of that.

Senator BINGAMAN. Thank you very much. Senator Shelby, did you have any questions?

Senator SHELBY. I do. Thank you, Mr. Chairman.

Senator Danforth, you have spent a lot of time in your Senate career dealing in commerce and chaired the Commerce Committee at one time, and you have worked in the area of competitiveness.

This to me looks more like an economic deal rather than a military deal. By that I mean, sure, we have signed the deal or the President has on behalf of us, but we know the history and the pattern of behavior of the Japanese who are very smart people, very much of an adversary as far as economic competition is concerned.

But when they have targeted an area—Senator Wilson mentioned chips a minute ago—from television, small electronics, cars, you name it, they have made that presence known not only in this country, but worldwide, and I have to believe that this is just going to give them a quantum leap in aerospace.

And you come from an area where that is very important in this country. I would like to hear your comments.

Senator DANFORTH. Well, Senator Shelby, thank you very much. Yes. It is true that Japan has targeted aerospace, and it has made no bones about it.

I wish I could say that there was something that we could do about it that is effective.

It is clear from everything that I have learned that if Japan wants to target aerospace and succeed in aerospace, it is going to succeed. It is going to succeed with or without the FS-X agreement.

Some people argue, I think, that the Defense Department will testify—I do not know if it is on the list today—but it has expressed the view in the past that even without an FS-X agreement, it is arguable that Japan will have even a greater leg up because they will then put all of their attention on developing their own technology and looking down the road 10 or 15 years, they will be even in better shape than they would be with the FS-X.

I wish that were not true. I wish that were not true. I wish Japan would take the position that if the United States has a comparative advantage, it would live with that comparative advantage but I do not know of any way of forcing it to do that.

My own view is that the best we can hope for is that in the future we have administrations that are alert to the commercial interests of the United States when they are negotiating with Japan. That is why S. 578 is, I think, important. I do not think we are going to turn off Japan. I do not think we are going to prevent them from making the most of whatever advantages they have, but I think when we are negotiating the details of future MOUs it is absolutely essential that the interests of the United States, when we are sitting around the table, include our interest in domestic competition.

Senator SHELBY. Senator Danforth, I guess what I pick up is that you are saying it is about 5 minutes until midnight on the clock and time is running against us on this. I do not recall any long-term benefits or any long-term economic co-development agreements with the Japanese. They seem to go it alone, especially when

they target an area and they put out good products competitively in the world, but they target an area and pretty soon we are not in it any longer, we are not competing for a lot of reasons, price at one time, and other reasons.

I see this coming down the road in the aerospace industry. I do not see it tomorrow, but I do not see the advantages that we are getting from this deal.

Senator DANFORTH. I am obviously concerned about aerospace. An aerospace company is the largest employer in the State of Missouri. I certainly agree that Japan has targeted aerospace and that is going to be very competitive in aerospace. I think that it is arguable that the FS-X deal will give them a couple of years boost. On the other hand, there are those who argue, as I pointed out, that if they were going it alone they would be even further ahead.

I think that when we watch targeting, when we watch these agreements in the future, it is very difficult for us to conduct successful negotiations from Congress. Any negotiations are going to be conducted by the executive branch and that is why I think it is important that the right people be at the table.

Senator SHELBY. I just believe we are getting the short shrift here, the American people, I think, Mr. Chairman.

Senator BINGAMAN. Thank you. Senator Cohen.

Senator COHEN. Thank you, Mr. Chairman. I don't have as much a question as perhaps an observation, Senator Danforth. I suspect that the opposition, or at least the antagonism toward the FS-X deal, has more to do with other factors than the deal itself.

I am somewhat struck by the irony that you have been very concerned that when we negotiate with the Japanese that we make sure that we have the Department of Commerce and our trade representative involved. I think my colleague from Wyoming would agree that in the past it has always been just the opposite. We have the situation where the Department of Defense has complained that the Department of Commerce and others has been giving away technology without taking into account the security needs of the Department of Defense. So we have sort of an inversion of the problem that we have experienced in the past.

Second, I get somewhat tired I think of hearing the phrase "Japan bashing." Every time someone raises a concern, or consideration, or contention that involves Japan, suddenly the issue has emerged that it is Japan bashing. I would say, in particular, in the field of trade, Senator Wilson and I went to Japan with Senator Dole back in 1985 and the issue once again at that particular point was that the United States was raising the ugly head of protectionism, and we had to take pains to point out that perhaps there is no more protectionist country in the world when it comes to trade than Japan itself, and yet they lay the blame or the responsibility for that protectionism to really cultural factors that they had to contend with in the field of beef, or agriculture, or other products, including even blueberries.

Somehow whenever a similar consideration is raised here it becomes one, that it is racist, Japan bashing, and somehow directed toward the Nation itself. I must tell you that that is not what I have in mind at all.

I think there is very deep resentment on the part of most taxpayers who have been paying a very heavy bill to provide for the defense needs of Japan and other Pacific rim countries, who see that we have protected a country that has now been allowed to prosper and to flourish and to flower and is now running a substantial trade—we are running a substantial trade deficit with the Japanese. When it comes time to an issue such as defense, defense related needs, they say we do not need your particular plane, we are going to build our own. Then we are put in the position of saying well, if you build your own, you will have to go without our technology. They say they will get it elsewhere, we will go to the Europeans. Of course, the Europeans do not provide for the protection of the Japanese people, and there is some consideration saying well, if you get the technology from the Europeans, perhaps you should get your defense from the Europeans as well, which I am not sure they would acquire.

That is one of the underlying resentments I think that is involved here, a deep seeded resentment that we spent a lot of money to provide protection and when it comes time to purchasing the one item that we have absolute superiority in they say thanks, but no thanks, we would like to build our own, or if forced to do so, we will go the co-production route.

Another issue has to do with the technology leakage. I think there is still some resentment over the Toshiba matter in which the country lost a great deal by one company transferring that technology to the Soviet submarines, which has put enormous strain upon our Navy.

There is also I think some lingering resentment toward Mitsubishi for the technology that was transferred in the help and construction of the facility in Libya, which will aid the abet the production of chemical—not weapons, but at least they are munitions—casings.

I think all of those factors are involved that perhaps have more significance even than the terms of this agreement. I think they are legitimate concerns to be raising. I must say I am keeping an open mind as far as the deal itself is concerned as to whether it is a good or bad deal.

I do think, and I share Senator Wilson's comments and some of the others that have been expressed, that the time has really come where we have to be much tougher in terms of dealing with the Japanese to make them understand clearly that the American people do not feel it has been a two-way street. It has been a one-way street for many, many years now, and that has got to be leveled out. I thank the Chair for indulging me.

Senator BINGAMAN. Thank you. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman. First I want to thank Senator Danforth, not just for his comments here but also for his work on trade issues throughout the years. He has been someone who has very constructively tried to redress the imbalance in the area of trade. There is a massive imbalance and his role in this has been—his role in trying to redress the imbalance—absolutely essential.

Mr. Chairman, I am one opponent of this deal who would be very happy to take yes for an answer, but the yes that I want is yes they will buy our planes.

I guess the haunting question I have here is why will they not buy our planes? We buy their televisions, their cars, their VCRs, their cameras. Why will they not buy our planes? We can build them for one-half to one-third of what they are going to pay for the F-16, but they will not buy them. They want to build them there obviously, they want the jobs there, they want to get into the aerospace business more heavily and that is the obvious answer to my question. That is not an adequate answer.

We do have the comparative advantage, as Senator Danforth has pointed out, but they still will not buy our planes although we can produce them more efficiently than they can, and they are going to pay a heavy price to get into this industry.

Basically they want it both ways. They want to sell everything here freely but they will not buy things that we can produce more efficiently than they can, and they will threaten to go elsewhere if we raise a squawk.

Is this Japan bashing? I do not think it is. I am just as critical of Canada, Korea, West European practices, I voted against the Canada Free Trade Agreement because I thought that was an unlevel playing field that was being incorporated in our law. So it is not Japan bashing. I think Senator Cohen's point is absolutely critical.

We should not be mad at Japan. We should focus our fire right here. We can control our economic destiny just the way every other country controls their economic destiny. Is it controlling our destiny to work out this kind of an agreement with Japan? I think not. Our economic destiny requires that we tell Japan if you want to sell everything freely here, if you want to keep selling all your cameras, cars, and VCRs here, you are going to have to buy things that we produce more efficiently than you, or you are going to find that there is going to be some restrictions on your products.

Do I believe in protectionism? No. But I also believe that we have to end a one-way street which exists in this area, and we are not going to end it if we approve this kind of a deal which is going to help them get into a business which is ultimately going to help increase the balance—the trade deficit rather than decrease it.

Again, I am not mad at Japan, not mad at anybody who is smart and thrifty and saves and works hard and intelligent. They do all of that. I focus my criticism right here, not just on this particular administration, the last one, the one before that, Democratic and Republican administrations, that have not protected the American economic interest by insisting that others who want to sell freely here buy our products that we make more efficiently.

That is not a question. It is a comment. Again, I want to thank Senator Danforth for his willingness to come forward, and his leadership in this area, and his very, very balanced kind of a presentation that he made here today. I notice a real tone almost of regret that he feels that we are not in a position where he thinks we can reject this deal. The only comment that I would make on that, finally, is that Japan is very well aware of the fact that the Congress has a role in rejecting this deal. We are not stuck with this deal. It

is part of our process that we have the right to veto it. I do not think that we are pulling out a rug that the Japanese are not perfectly aware of that we have the power to pull out if this Congress so desires.

Senator DANFORTH. Mr. Chairman, could I respond, please?

Senator BINGAMAN. Certainly.

Senator DANFORTH. I want to thank Senator Levin for his very kind comments. I would point out that in July 1987 Senator Byrd offered an amendment on the floor of the Senate that instructed the Secretary of Defense to press the Japanese to purchase American aircraft. On the roll call vote on the floor of the Senate 96 to 0. That is what we were trying to do, to urge the Japanese to buy our aircraft because we make the best in the world, because it was an opportunity for Japan to help redress a trade imbalance.

I think one thing to point out about this particular deal is it is not just the initial sale of planes. It is the follow-on and parts that will create the difference between an off-the-shelf sale and the kind of agreement that has been entered into here.

In any event, Senator Byrd offered the amendment. The vote was 96 to 0. The amendment called upon Japan to exercise a degree of statesmanship, a degree of responsibility, a degree of interest in the economic health of the rest of the world. Japan was given that opportunity and, quite frankly, it rejected it. It is not into responsibility, it is not into statesmanship. I guess I will be accused of Japan bashing for saying that, but I think it is important to be accurate. It is important to be truthful.

They had the opportunity. They blew the opportunity because they were intent on creating their own targeted aerospace industry. I regret that. The real question is where do we go from here?

I think that the 1988 Trade Act gave us some important tools. I think that it is important now to see that not only this administration but future administrations are very forceful, very forthcoming in pressing the commercial interests of the United States, not only under the terms of the 1988 Trade Act, but in general negotiations with Japan.

Senator BINGAMAN. Thank you. Senator Thurmond.

Senator THURMOND. Thank you, Mr. Chairman. Mr. Chairman, I want to congratulate you for holding this hearing on this FS-X. This is a very important question. In my opinion this will be a good opportunity for all the members of the Armed Services Committee to hear the facts on this much maligned effort to co-develop the next generation fighter aircraft for Japan.

During the past several weeks the opponents to the President's agreement have raised the specter of Japan using the technology gained from the FS-X against our Nation. After reviewing the agreement, I believe the administration has secured adequate guarantees to protect our industry from any Japanese encroachment.

My constituency appears to be against dealing with the Japanese in this endeavor, but I feel they do not have all the facts. After careful consideration in this matter I plan to support the President on this agreement.

My decision is based on the following: Japan will not buy or co-produce the F-16.

Next, if the United States did not participate in the co-development, Japan would develop the FS-X by itself or get another nation to assist. In either case we get nothing.

Next, U.S. corporations will get 40 percent of the developmental work or approximately \$500 million.

Next, U.S. industries anticipated work share for the \$5 billion production phase is approximately 40 percent, or \$2 billion.

Next, the majority of the technology the United States is transferring is 15 years old.

Next, there is the potential of technology flowback to the United States.

Last, the United States has provided an umbrella of defense support for Japan since World War II and this agreement will be a step to make them do more along the line of defense which is important.

Finally, this agreement makes sense both militarily and diplomatically, and it is supported by the Defense Department, the State Department, and the Commerce Department.

I feel after studying it carefully I feel comfortable with it. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you, Senator Thurmond. Senator Dixon.

Senator DIXON. Thank you, Mr. Chairman. I want to join those of my colleagues, Senator Danforth, who express their very high regard for you and your leadership on this issue. I want to make a little statement that will ultimately lead to my one question.

First, I share the concerns of my friend from Maine talking about all of the experiences we have had, particularly on the Armed Services Committee, in this very room where we deal with a lot of questions regarding authorization, quality of life in barracks and institutions and other things in Japan. We talk about the various things that we do in the defense of that nation in this room on various occasions. We have been concerned about the Toshiba incident, the price we pay, and secret submarine knowledge as a consequence of that; the concerns we have, if it is true, about what is happening in Libya with the manufacturer of canisters for nerve gas by Mitsubishi, if that is so. I guess it is not entirely established that it is.

Then the things that my friend from Michigan says about the \$50 billion plus deficit, the fact that we buy everything from them and they will not buy the F-16 from us. And then you have, I think, outlined very well here the question of how these old negotiations unfolded.

I think it is a fact that Commerce had no fingerprints on this discussion until the new administration came in in January. I give Secretary Mosbacher credit for being involved at that point and time, making his views known. I think that is important.

I must say that Clyde Prestowitz and others who have written extensively on this subject suggest that even now the agreement is not much changed as a consequence of the further letters of understanding that have been exchanged between our two great nations as a consequence of the deliberations since Commerce has been involved. Going through all of this and hearing you say, as a person I genuinely respect, how you had concerns about that, and you have

expressed your reservations about what occurred up until very recently, but now suggesting it is a done deal and our only course is to go forward with this. I think that is what bothers me a great deal. I hear a lot of that around here, Senator. I think that there must be, among those who support this idea—I hope I state this fairly—at least half of them have said to me that they reluctantly approve of the deal, that they do not want to do it, but it is the only choice I have left.

Now several things bother me. First of all, all this talk about percentages, if I follow this thing correctly, we are already having a problem about the percentages. It is agreed that in development, we will do 40 percent of the work. It is already clear by the letters of understanding it is approximately 40 percent for follow-on production work, and I do not think anybody knows what our friends on the other side of the ocean mean by approximately 40 percent.

Let me just give you an example here, and I would like your response to this. The side letters on the deal between the United States and Japan were supposed to have guaranteed the United States a 20-percent share of the Japanese semiconductor market. I am told they even deny the existence of this agreement, even after a Japanese news service apparently has produced a copy of the agreement. I ask you, with a track record like the one the Japanese have on side letters, how can we ask this committee, and the Congress, and the American people to believe that they will live by these exchanges of letters and memorandums of understandings about percentages? That would be my first question. What is your view of that?

Senator DANFORTH. It is my understanding with respect to production there will be a subsequent MOU so Congress will get another look at that.

Senator DIXON. You are quite correct, there will be a subsequent MOU on that. It is stated here in the exchange between Mr. Baker and Mr. Matsunaga.

Senator DANFORTH. Obviously we will be looking at the subsequent MOU not only from the standpoint of its details, but also from the standpoint of how the agreement to date has worked out.

Senator DIXON. Let us assume for purposes of this discussion that we can never establish with any degree of finality an exact percentage. The facts seem to be that percentages have not meant much to them in agreements that we have entered into with them in the past, so why would we entertain the final argument of the administration that we are going to be safe and rely upon percentages represented to us in either the MOU or the exchange of letters?

Senator DANFORTH. We talked earlier about ironies. I am most appreciative of the "show me" attitude being adopted by the Senator from Illinois.

Senator DIXON. As you know, I live right across the river.

Senator DANFORTH. I know that, and it is catching and it is wonderful. One thing that we did in the 1988 Trade Act was to provide specifically for a procedure for enforcing previously entered into trade agreements so that violations of trade agreements set in motion, a process provided for in the statute for enforcement of

those agreements, and for automatic retaliation in the case of violating agreements.

I think we are in better shape now with respect to enforcing agreements than we ever were before.

Senator DIXON. May I interrupt you to say I hope so. The administration is, I think, agonizing over supra 301 right now. The game remains to be played and I am concerned about it. My time I am told is up, but I would want to say that I have seen no evidence up to this moment in this committee of any effort by the United States to correct a great many imbalances with the Japanese that are matters of record, and have been matters of record for a long time.

No Senator more than the Senator who is the witness here has spent more time on the subject.

Here, incidentally, is the article in the Chicago Tribune by Clyde Prestowitz of May 5, "The New FS-X Deal Hardly Differs From the Original." Is the Senator familiar with that?

Senator DANFORTH. I have not seen that article.

Senator DIXON. I would like to make that a part of the record if I could, Mr. Chairman.

Senator BINGAMAN. We will include that in the record.

[The information follows:]

[From the Chicago Tribune, May 5, 1989]

THE NEW FS-X DEAL HARDLY DIFFERS FROM THE ORIGINAL

(By Clyde V. Prestowitz, Jr.)

The FS-X mountain has labored and brought forth a mouse. For several months the Bush administration appeared to be raising the priority of defense of U.S. technologies leadership in the deal with Japan to codevelop its next generation fighter as a derivative of the U.S. F-16. Yet the administration now seems to have settled for little more than the original deal of last December.

Under the agreement, the United States was to turn over to Japan F-16 technology—developed at the cost of \$3 billion to \$5 billion—in return for 40 percent of the development work on four FS-X prototypes (\$460 million), a vague expression of "best effort" to achieve a similar U.S. workshare on the eventual 130-plane production run, and an equally vague promise of access to undefined Japanese technology. Flowback to the U.S. of Japanese technology "essentially" derived from U.S. technology was to be free of charge, while indigenously developed Japanese technology would be available for a royalty.

Critics pointed out that the wildly unbalanced nature of this deal (similar to others the U.S. had come to regret) probably would accelerate Japan's drive toward world-class aircraft manufacturing status and narrow the U.S. lead in its last industrial stronghold.

In response, President Bush ordered a review and then asked Japan to agree to certain improvements in the deal. Specifically, the President demanded: (1) revision of the basic memorandum of understanding to obtain clear assurances of a 40 percent U.S. production workshare; (2) restriction on the transfer of key software source codes for the plane's computers; and (3) a clearer definition of the term "essentially" derived from U.S. technology with regard to the flowback of technology to the U.S.

When made in February, the President's demands amounted to a denial of the assertion by the Pentagon and State Department, as well as by former Secretaries of Defense Frank Carlucci and Caspar Weinberger, that the deal as originally negotiated was the best one possible. In particular, the President obviously questioned their insistence that the United States "had every reason to expect that it would receive 40 percent of the eventual production work."

He had good cause. Bitter experience had taught that the words "best effort" in this kind of deal really mean "it will never happen." Experience with the F-15 and

others also indicated a U.S. readiness to transfer increasing increments of technology for very little or nothing in return.

Nothing confirmed the wisdom of the President's course and confounded the participant of the original deal more than the Japanese response. Three months of haggling ensued. Where the Pentagon had earlier insisted that the U.S. "had every reason to expect" a 40 percent production workshare, the Japanese proposed 28 percent, then inched up to 32-35 percent.

The stakes in this game were the engines. At a 40 percent U.S. workshare, if the Japanese were to keep the avionics and other sophisticated work in Japan, the U.S. would have to get most of the engines that contained new and important technology in which the U.S. has a substantial lead.

Similar haggling occurred over technology transfer issues. For most of this time the administration held firm for the President's demands with, amazingly, the State Department taking the lead as the tough guy.

Then, suddenly, it all fell apart. Shortly after Prime Minister Noboru Takeshita's resignation statement, an agreement on the FS-X was announced. Under it, the U.S. is to get "approximately" 40 percent of the production workshare. Mention of restriction on transfer of source codes was made, but it is agreed that the U.S. will transfer all codes necessary to realization of the FS-X project's objectives.

The terms of the U.S. access to possible Japanese technology were somewhat clarified, and the U.S. agreed that it would not preclude the possibility of Japanese production of the engine. Moreover, these changes were contained in an exchange of letters rather than in the memorandum of understanding itself as the President had requested.

One can only wonder what all the fuss was about. This is essentially the same deal as that announced in January. What is "approximately" 40 percent. Is it 20 percent or 35 percent? Certainly it is not 45 percent. Any suggested restrictions on source code transfer are meaningless as long as they are qualified by the need to "reach project objectives." In time, "reaching objectives" will result in virtually total transfer.

Why did the U.S. back down? One can only speculate, but it appears to be a reassertion of the traditional primacy of defense over economic considerations in U.S. diplomacy. With Takeshita on the skids, the U.S. became concerned that a new prime minister could not agree to any deal on the FS-X. Concerned that Japan would not have an adequate fighter in the 21st Century, the U.S. appears to have pressed for a quick deal while Takeshita was still around to do it, proving once again that, between the U.S. and Japan, nothing ever changes.

Senator DIXON. Thank you, Senator.

Senator DANFORTH. Can I say that I agree that the record of this administration is yet to be made on international trade. I think there are some good omens. I think that what we have heard from Mrs. Hills, there is a seriousness with respect to supra 301. We will not know until late this month.

I think clearly that there was a difference with respect to the FS-X. There is room for debate, particularly among people who get into the details, the technicians who are involved in it, as to whether or not the new administration significantly changed the deal that was negotiated by the Reagan administration.

The point I would like to emphasize is that when the new administration came in, Secretary Mosbacher, operating basically because of his closeness with the new President, was able to shoehorn himself into an agreement that had previously been locked up.

Senator DIXON. I respect what he did.

Senator DANFORTH. He was able to do that and I think that should be encouraged and we should be able to build on that. I think when that happens we should give some weight to that in looking at the terms of this particular deal, but I also think that it is essential that we institutionalize that involvement that Secretary Mosbacher was able to establish on an informal basis, that we institutionalize it. That really has been the thrust of my testimony. S. 578 is designed to institutionalize the personal kind of relation-

ship that Secretary Mosbacher was able to use in reopening this deal.

Senator BINGAMAN. Senator Wirth, did you have questions of Senator Danforth?

Senator WIRTH. Thank you very much, Mr. Chairman. I wanted to add my words of commendation to you for the constructive and thoughtful way in which you have conducted this hearing. I was one of the people that signed the letter that you sent earlier this year, asking for the military analysis to be augmented by a very careful commercial analysis, and I appreciate the job that has been done. I think you described it very fairly, Senator Danforth.

I think what we have here, Mr. Chairman, is that the FS-X has become a raw nerve, or a fuse leading down to the fact that much in the world is changing so swiftly that I do not think we really comprehend that, nor do we have the institutional arrangements to deal with it.

If we look at Europe coming together, the economic factor of 1992 is going to be very threatening to us and certainly very threatening to our continued support of a \$150 billion expenditure militarily in Europe.

The Soviet Union is changing irreversibly and most of the world seems to understand that. We have not recognized that reality yet. That is coming along. The countries to the south are staggering under an enormous debt, and our economic relationships there are eroding very rapidly. We have to get on top of that. The Pacific rim is certainly no longer peopled by a number of clients.

It seems to me, Mr. Chairman, that what we are seeing here is the need for us in the United States to think of different kind of institutional arrangements and different ways of doing business with the rest of the world. This is a first, but I think very important step in that.

It is my own belief that when we say we got snookered in this, we are wrong. It is my understanding that the Japanese were going to go it alone until the last administration started banging on the Japanese. Secretary Carlucci tried to get them to buy American aircraft. As you pointed out, that was not successful. Then we got a cooperative arrangement to come out of that.

Our commercial aircraft companies are not saying that we are going to lose technology in the future. They already have, as I understand it, a variety of cooperative ventures.

Third, it seems to me this is a pattern that we have established elsewhere for cooperative arrangements, such as with the Netherlands, and the French on MLRS. We have got some joint projects going with the British on Trident. We are doing a great deal of co-production on the F-16 with the Norwegians, and Belgians, and the Dutch, and the Danes.

I think this is yet another step in that direction. We are feeling our way, but the world is changing. It seems to me that the world requires a different set of partnerships and a different sense of reality on our part. I would guess that we, in many cases, do not like to admit the fact that this kind of change is there.

This is going to be a fascinating debate when we get to the floor. I just want to tell you, Senator Danforth, I appreciate the careful thought that you have put into this. I thought today at the caucus,

Senator Bingaman, although that was not a public event, that your presentation on behalf of this issue was about as thoughtful as any I have heard.

I do not have any questions, Senator Danforth, other than to state my own sense. What we are seeing here with the FS-X is a case study of a whole variety of other issues that surround us. We are watching that play out here. It is not easy, it is not pleasant, but we are doing the best we can. I think that you, Senator Bingaman, have done a very commendable job. Thank you very much.

Senator BINGAMAN. Thank you for those kind words. I understand Senator Lott does not have questions.

Senator LOTT. I just want to thank him for coming. I am looking forward to hearing the other witnesses, so I will defer.

Senator BINGAMAN. Thank you very much for testifying. Our next panel is four administration witnesses, Mr. William Clark from the Department of State; Mr. Carl Ford and Lt. Gen. Ron Yates from the Defense Department; and Ms. Joan McEntee from the Commerce Department. If they would all come forward please.

Let's just advise folks we have this panel, and then we have the General Accounting Office that will make a presentation in closed session after that.

I understand that three of the four people at the witness table wish to make statements and then we will have questions of the group. Why don't we go ahead with Mr. Clark.

STATEMENT OF WILLIAM CLARK, JR., ACTING ASSISTANT SECRETARY OF STATE FOR EAST ASIAN AND PACIFIC AFFAIRS

Mr. CLARK. Thank you, Mr. Chairman. It is a pleasure to be here before you today to discuss the FS-X agreement.

As you are aware, on April 30 the President announced his support for the FS-X codevelopment agreement recently reached between the United States and Japan. Accordingly, the State Department on May 1 formally notified the Congress of the FS-X program, in accordance with section 36(d) of the Arms Export and Control Act. Beyond the requirements of the act, we have transmitted copies of the MOU and related documents to the Congress.

The final agreement represents a pact, not only between the United States and Japan, but between the administration and the Congress. When the President entered office he ordered, in response to congressional concerns, an interagency review of the FS-X agreement with particular attention to its economic and technological implications for the United States. That review was undertaken with great care; there was no rush to judgment.

The review underscored a need for certain clarifications from the Japanese side, clarifications which we obtained as a consequence of protracted negotiations. Secretary Baker, who as you know takes congressional concerns seriously, was instrumental in securing those clarifications.

The Secretary of State was particularly concerned about U.S. jobs. Even before the interagency review was concluded, he stressed to the Japanese in Tokyo in late February the need for assurance that the U.S. share in the production phase would be similar to that for the development phase. We now have that assurance as

well as assurance with regard to U.S. technology flows to Japan and the flow of Japanese technology to the United States. U.S. industry will get 40 percent of the work in the development phase and approximately 40 percent during production.

In considering FS-X, we must keep in mind the larger dimensions of our security ties and our overall relationship with Japan. The U.S.-Japan Treaty of Mutual Cooperation and Security, under which Japan furnishes bases in exchange for our commitment to defend Japan, is the foundation for our political and strategic relations throughout the Pacific. Our deployment forces in Japan is key to our forward defense strategy and our ability to meet global defense commitments.

The FS-X will bolster Japan's defense capability with an upgraded version of an already front-line fighter, strengthen our overall alliance and allow Japan to assume a larger share of the common defense burden.

In addition, as the first military codevelopment project between the world's two most technologically advanced countries, FS-X sets an important precedent for future United States-Japan cooperative defense efforts.

We made suggestions to Tokyo on ways to clarify the FS-X agreement. The Japanese in turn gave us the assurance that we sought. We now have an agreement that clearly serves the national interests of the United States. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much. Mr. Ford, did you want to speak for the Defense Department?

**STATEMENT OF CARL W. FORD, JR., DEPUTY ASSISTANT
SECRETARY OF DEFENSE, EAST ASIA AND PACIFIC AFFAIRS**

Mr. FORD. Thank you, Mr. Chairman. I have a prepared statement that I would like to enter for the record and just make a few informal comments.

Senator BINGAMAN. We will include the entire statement for the record.

Mr. FORD. Much of the focus this afternoon has been on the commercial and technological aspects of this particular agreement. We at the Pentagon certainly understand that focus, and we were mindful of it when we approached the negotiations with the Japanese. Any suggestion that we are not concerned about protecting America's production base and our state-of-the-art technology just could not be further from the truth. The fact is that we feel very strongly about this. We are as concerned as anyone else in the bureaucracy and certainly anyone in the Congress about these issues.

As we proceeded throughout the negotiations, we were concerned about work share. We attempted to try to negotiate what we thought was an equitable work share. We also were insistent on providing provisions for protecting any sensitive technologies that existed in the original F-16s.

Having said that, we would also like you not to lose sight of the military benefits of this particular agreement. In our mind the decision on the FS-X was made because it is in America's security interest to proceed with this particular transaction. In fact, the FS-X is our idea.

Like you, we would have preferred for the Japanese to buy an American made aircraft, of their choice, off-the-shelf. Two Secretaries of Defense and many other lesser officials badgered, pushed, pressed, and tried to persuade the Japanese to buy such an aircraft. They, for their own national security interest in my judgment, decided that that was something they could not do. What they did do was something more than most of our major allies in Europe did. They reluctantly, and after much pressure, agreed to proceed with this FS-X agreement so that at least something would come back to the U.S. in terms of workshare, in terms of involvement with their military.

My own sense is that the Japanese in the end made this decision not on a commercial basis but on a political basis. They happen to believe that the United States/Japan security relationship and the overall relationship of the United States is more important than building their own indigenous fighter. The politicians in Japan overruled the strong advice of many within their own military and many within their own industry who were saying "do not do the FS-X." This is a demonstration of support for the American connection, support for an understanding of the trade problems and disputes between the two countries rather than the contrary.

From our perspective, if the FS-X agreement is not approved, everyone loses. Japan loses a more capable aircraft than they could be provided by anyone else. We lose diplomatically, economically, and militarily. In fact, we will be the big losers if this particular arrangement is not approved.

What we are most worried about, is that our whole relationship with Japan's military and the other agencies in Japan is based on trust and confidence, trust and confidence that the United States will meet its commitments and provide for the defense of Japan.

We have seen it as our responsibility and our mission to try to keep Japan and its military developing in very close cooperation with the United States. We thought this was a clear direction of our leadership, clear indication of the interest of our other allies in Asia. Most Japanese also agree with this. They think it is important for Japan, as it develops militarily, to remain in close cooperation with the United States.

Without the trust and confidence to proceed with this relationship there are those, thankfully in the minority at this point, who are already promoting a more independent posture for Japan diplomatically and militarily who would like to see the FS-X fall, and who are prepared to begin development of an indigenous fighter or a fighter with European support, the moment we say no. That is what they wanted in the first place. That is what they had to be talked out of.

Finally, just in summary and conclusion, let me read a couple of paragraphs from my prepared statement.

No one should be under any illusions as to our choices. The alternative to this agreement is not off-the-shelf purchase of an American aircraft by Japan. Rather, it is the real possibility of Japan going it alone in the military aerospace industry and eventually with its security policy as well, a prospect that would not be in the national interest of either the United States or Japan. It remains in our interest for both military and economic reasons for the United States to continue its long tradition as a reliable supplier of military equipment to Japan.

Last year it purchased about as much military equipment from the U.S. as the United Kingdom, West Germany, France, and Italy combined. Japan now has one of the largest defense budgets in the world and is today, and for years has been, the cornerstone of our defense policy in the Pacific.

As America comes to grips with the economic challenges it faces, we must proceed wisely and with our eyes open so as to preserve, enhance, and continue to benefit from this most important mutual security relationship.

On the other hand, it is difficult for me to see how failure to proceed with this agreement could be in the national interest of the United States.

Thank you, Mr. Chairman.

[The statement of Mr. Ford follows:]

STATEMENT OF

CARL W. FORD, JR.

DEPUTY ASSISTANT SECRETARY DEFENSE

EAST ASIA AND PACIFIC AFFAIRS

MR. CHAIRMAN:

THANK YOU FOR PROVIDING ME THE OPPORTUNITY TO SHARE WITH YOU MY VIEWS ABOUT THE FSX AGREEMENT FOR JAPAN'S NEXT GENERATION FIGHTER AIRCRAFT. I BELIEVE THAT THIS AGREEMENT IS IMPORTANT TO THE U.S.-JAPAN SECURITY RELATIONSHIP AND TO THE OVERALL SECURITY OF THE UNITED STATES. STOPPING OR ALTERING THIS AGREEMENT, IN MY OPINION, WOULD NOT BE IN THE NATIONAL INTEREST OF THE UNITED STATES.

U.S.-JAPAN SECURITY OVERVIEW

THE U.S. AND JAPAN HAVE A STRONG MUTUAL SECURITY RELATIONSHIP. SINCE 1981, JAPAN'S CONTRIBUTION TO DEFENSE HAS BEEN MEASURED AGAINST MUTUALLY AGREED UPON ROLES AND MISSIONS AND IS AN ESSENTIAL INGREDIENT IN THE U.S. FORWARD-DEPLOYED DEFENSE STRATEGY IN NORTHEAST ASIA. THE U.S. IS PLEDGED TO PROVIDE THE PROTECTIVE NUCLEAR UMBRELLA AND CONVENTIONAL OFFENSIVE FORCES AS NECESSARY WHILE JAPAN IS RESPONSIBLE FOR THE DEFENSE OF ITS TERRITORY AND, IN CONJUNCTION WITH U.S. FORCES, THE AIR AND SEALANES OUT TO 1000 NAUTICAL MILES. JAPAN ALSO PROVIDES RENT-FREE BASES AND SUBSTANTIAL FINANCIAL SUPPORT TO U.S. FORCES. CURRENTLY JAPAN'S DEFENSE BUDGET IS APPROXIMATELY EQUAL TO THAT OF OUR EUROPEAN ALLIES BRITAIN, FRANCE AND WEST GERMANY. JAPAN'S ABILITY TO BLUNT AN ATTACK, DEFEND ITSELF, AND, IN SO DOING, ALLOW U.S. FORCES THE TIME AND PROTECTION

NECESSARY TO CONDUCT DECISIVE DEFENSIVE COUNTERSTRIKES IS CRUCIAL TO THE SECURITY OF BOTH THE UNITED STATES AND JAPAN. THIS ADMINISTRATION, ITS PREDECESSOR, AND THE CONGRESS HAVE ALL SUPPORTED JAPAN'S ASSUMPTION OF THESE ROLES AND MISSIONS. COLLECTIVELY, WE HAVE ENCOURAGED JAPAN TO DEVELOP THE MILITARY CAPABILITIES AND FORCE STRUCTURE NECESSARY TO MEET ITS COMMITMENTS.

HOW FSX FITS IN

THE FSX PROGRAM WILL ENSURE THAT JAPAN HAS A FIRST-RATE SUPPORT FIGHTER TO MEET LEGITIMATE MILITARY REQUIREMENTS IN SUPPORT OF JAPAN'S SECURITY RESPONSIBILITIES. THE IMPROVED ANTI-INVASION AND GROUND SUPPORT CAPABILITY PROVIDED BY THE FSX WILL ADD A NEW AND IMPORTANT DIMENSION TO JAPAN'S DEFENSE. THE ENHANCED CAPABILITY PROVIDED BY FSX WILL, IN TURN, INCREASE THE DETERRENT EFFECT OF JAPAN'S SELF DEFENSE FORCES.

BECAUSE THE FSX WILL BE BASED ON THE F-16, WE GAIN THE BENEFITS OF INTEROPERABILITY WITH U.S. FORCES. FUELING AND SOME GROUND SUPPORT EQUIPMENT WILL BE COMPATIBLE, AS WILL CERTAIN MAINTENANCE FUNCTIONS. THE U.S. WILL MAINTAIN DIRECT INVOLVEMENT IN THE JAPANESE MILITARY AIRCRAFT INDUSTRY AND GAIN ACCESS TO SEVERAL POSSIBLE TECHNOLOGICAL IMPROVEMENTS, INCLUDING CO-CURED WHOLE WING PROCESSES AND MINIATURIZED ACTIVE PHASED-ARRAY RADAR MANUFACTURING CAPABILITIES.

WHAT WOULD DISAPPROVAL MEAN?

DISAPPROVAL OF THE FSX BY THE CONGRESS WOULD MOST LIKELY RESULT IN JAPAN MODIFYING AN EXISTING AIRCRAFT TO MEET THE IMMEDIATE MILITARY NEED, AND THEN ATTEMPTING TO DEVELOP

INDIGENOUSLY A FOLLOW-ON AIRCRAFT, POSSIBLY WITH EUROPEAN ASSISTANCE. WE BELIEVE THAT, IN SUCH A CIRCUMSTANCE, WE WOULD PROBABLY SEE A SIGNIFICANT INCREASE IN JAPAN'S MILITARY R&D BUDGET AND INCREASED DOMESTIC PRESSURE FOR INDIGENOUS DEVELOPMENT OF OTHER MILITARY SYSTEMS THAT ARE NOW, OR WOULD HAVE BEEN, PURCHASED OR LICENSED PRODUCED FROM THE U.S. AS AN EXAMPLE, WE ANTICIPATE THAT U.S.-BUILT AWACS AND TANKER AIRCRAFT ARE BEING CONSIDERED BY JAPAN FOR ITS NEXT DEFENSE PLAN. ADDITIONALLY, WE COULD EXPECT FUTURE TECHNOLOGICAL FLOWBACK FROM JAPAN TO BECOME MORE DIFFICULT.

THE MOST DAMAGING IMPACT, IN MY VIEW, WOULD BE ON THE RELATIONSHIP AS A WHOLE, WITH JAPAN PURSUING INCREASINGLY INDEPENDENT SECURITY POLICIES. SPECIFICALLY, THERE IS GROWING CONCERN IN JAPAN, SPARKED BY AMERICAN PUBLIC OPINION POLLS -- AND MOST RECENTLY THIS DEBATE OVER THE FSX AGREEMENT -- THAT MANY IN THE UNITED STATES SEE JAPAN MORE AS A THREAT THAN A TRUSTED SECURITY PARTNER. ADDITIONALLY, THERE IS A PERCEPTION IN JAPAN THAT OUR COMMITMENT TO THE U.S.-JAPAN ALLIANCE MAY BE ERODING. RENUNCIATION OF THE THE FSX AGREEMENT WILL SUPPORT THESE ASSERTIONS WITHOUT PROVIDING ANY TANGIBLE SECURITY, ECONOMIC OR MILITARY BENEFIT TO THE U.S. ON THE CONTRARY, FAILURE TO PROCEED WILL BE PERCEIVED BY JAPAN AS A CLEAR SIGNAL THAT AMERICA HAS ALLOWED ITS FRUSTRATIONS OVER TRADE TO TRANSCEND ITS ABILITY TO SEE THE IMPORTANCE OF AN INTERDEPENDENT U.S.-JAPAN SECURITY ARRANGEMENT.

IN THE MID-1970S JAPAN BRIEFLY EXPERIMENTED WITH A POLICY OF "OMNIDIRECTIONAL DIPLOMACY," DE-EMPHASIZING THE U.S. ALLIANCE, REFUSING TO IDENTIFY POTENTIAL ENEMIES, AND ASSERTING JAPAN'S WILLINGNESS TO COOPERATE WITH ALL ITS NEIGHBORS. IT COULD DO SO AGAIN.

ANOTHER PLAUSIBLE ALTERNATIVE SECURITY AND FOREIGN POLICY DIRECTION FOR JAPAN WOULD BE TO FOLLOW A MORE NATIONALISTIC COURSE. THIS IS NOT TO SUGGEST A RETURN TO MILITARISM OF THE 1930S, BUT RATHER JAPAN BECOMING A MORE DIFFICULT ALLY. TRADE FRICTION AND COMPETITION FOR THIRD COUNTRY MARKETS AND RESOURCES COULD BECOME MORE INTENSE. IT WOULD BECOME MUCH MORE DIFFICULT TO COORDINATE FOREIGN ASSISTANCE PROGRAMS AND OTHER POLICIES. EVEN MORE WORRISOME, THE SOVIETS AND CHINESE MIGHT FEEL COMPELLED TO FURTHER EXPAND THEIR OWN REGIONAL FORCES. ALL OF THIS WOULD DILUTE THE STRENGTH AND EFFECTIVENESS OF U.S. FORCES AND U.S. POLICY.

IN EITHER EVENT, IT IS LIKELY THAT JAPAN'S AIRCRAFT INDUSTRY WOULD WELCOME THE RENUNCIATION OF THE FSX AGREEMENT. IT WOULD MEAN AN INCREASED COMMITMENT ON THE PART OF THE JAPANESE DEFENSE AGENCY (JDA) TOWARDS DOMESTIC DEVELOPMENT AND A VINDICATION OF THOSE WITHIN JDA AND MITI WHO HAVE BEEN CLAIMING THAT FOR NATIONALISTIC AND INDUSTRIAL POLICY REASONS CODEVELOPMENT AND COPRODUCTION WITH THE U.S. IS A BAD IDEA.

FAILURE TO PROCEED WITH THE AGREEMENT WILL SUPPORT AND ENCOURAGE THOSE IN JAPAN ACTIVELY PURSUING THESE COURSES OF ACTION. RENUNCIATION OF THE FSX COULD BE "THE STRAW" OR PART OF IT, THAT BREAKS THE PROVERBIAL "CAMEL'S BACK" OF CONTINUED CLOSE COOPERATION WITH THE UNITED STATES. I HOPE NOT, BUT THAT IS AT LEAST A POSSIBLE RISK.

WHY JAPAN WILL NOT BUY AN OFF-THE-SHELF FIGHTER

JAPAN HAS A LEGITIMATE NEED FOR A NEW SUPPORT FIGHTER AIRCRAFT TO REPLACE ITS AGING F-1 AIRCRAFT, AN AIRCRAFT CAPABLE

OF MEETING THE EXPECTED THREAT IN THE NORTHWEST PACIFIC IN THE LATE 1990'S AND BEYOND. FOR SEVERAL YEARS GENERAL DYNAMICS, MCDONNELL-DOUGLAS AND OTHER BUILDERS VIGOROUSLY TRIED TO SELL THEIR AIRCRAFT OFF-THE-SHELF TO MEET JAPAN'S NEED. THE DEPARTMENT OF DEFENSE SUPPORTED THESE EFFORTS. WOULD I HAVE PREFERRED THAT THE JAPANESE BUY AN OFF-THE-SHELF AIRCRAFT? YES, TO THE SAME EXTENT THAT I WOULD LIKE OUR EUROPEAN ALLIES TO BUY OFF-THE-SHELF.

JAPAN, HOWEVER, SOUGHT TO BUILD ITS OWN AIRCRAFT. THOUGH THIS OPTION WAS NOT THE OPTIMAL ONE FROM OUR VIEWPOINT, IT WAS NOT UNLIKE WHAT THE U.S. HAD ENCOUNTERED ELSEWHERE. DOD FOUND IN ITS ANALYSIS OF THE FREE WORLD GLOBAL FIGHTER COMPETITION THAT MANY NATIONS WERE DEVELOPING INDIGENOUS FIGHTER AIRCRAFT: FRANCE THE RAFALE, SWEDEN THE GRIPEN, ISRAEL THE LAVI, AND THE U.K., GERMANY, SPAIN AND ITALY THE EUROPEAN FIGHTER AIRCRAFT (EFA). DOD ATTEMPTED TO FORESTALL THESE COSTLY AND DUPLICATIVE PROGRAMS BY OFFERING U.S. FIGHTER AIRCRAFT TECHNOLOGY AND AMERICAN INDUSTRIAL PARTICIPATION. ALL SUCH EFFORTS FAILED, WITH THE EXCEPTION OF THE LAVI. ISRAEL ULTIMATELY CANCELED THE LAVI BECAUSE OF THE HIGH COST INVOLVED.

GIVEN THIS BACKGROUND, AND DOD'S ASSESSMENT AT THE TIME THAT JAPAN POSSESSED THE REQUISITE MONEY, SKILLED LABOR FORCE AND MANUFACTURING BASE TO ATTEMPT INDIGENOUS DEVELOPMENT, IT CAME AS NO SURPRISE THAT JAPAN ALSO INTENDED TO DO SO. DOD, HOWEVER, ARGUED THAT AMERICAN AIRCRAFT WERE THE MOST COST EFFECTIVE AND MOST RAPIDLY AVAILABLE SOLUTION TO THEIR AIRCRAFT NEEDS. THESE POINTS WERE RAISED AT THE HIGHEST LEVELS OF THE JAPANESE GOVERNMENT BY SECRETARIES WEINBERGER AND CARLUCCI AND SENIOR STATE DEPARTMENT AND WHITE HOUSE OFFICIALS ON SEVERAL OCCASIONS.

BUT AN OFF-THE-SHELF PURCHASE OF AN AMERICAN AIRCRAFT WAS NEVER A LIKELY CHOICE FOR JAPAN. JAPAN NEVER HAS BOUGHT AIRCRAFT OFF-THE-SHELF WHEN SIGNIFICANT NUMBERS OF PLANES ARE INVOLVED. THE JAPANESE HAVE ALWAYS EITHER ATTEMPTED INDIGENOUS DEVELOPMENT, AS WITH THE F-1, OR ENTERED INTO A LICENSED PRODUCTION AGREEMENT, AS IN THE CASE OF THE F-4, F-15 AND P-3. FROM BOTH A MILITARY AND ECONOMIC POINT OF VIEW, IT MAKES SENSE TO MANUFACTURE FIGHTER AIRCRAFT IN YOUR OWN COUNTRY IN ORDER TO BE ABLE TO PROVIDE SUSTAINABILITY OF THE FORCE AS WELL AS TO KEEP AEROSPACE WORKERS EMPLOYED. THIS IS THE WAY WE DO BUSINESS.

THE AGREEMENT

AFTER HIGH LEVEL DISCUSSIONS, HOWEVER, JAPAN AGREED THAT SOME FORM OF CODEVELOPMENT/COPRODUCTION WITH THE U.S. SHOULD BE SERIOUSLY CONSIDERED. IN 1987, THE JAPANESE DECIDED TO BASE THEIR FSX ON THE GENERAL DYNAMICS F-16. AFTER MORE THAN A YEAR OF DIFFICULT, HARDNOSED NEGOTIATIONS, THE GOVERNMENT OF JAPAN AND THE GOVERNMENT OF THE UNITED STATES SIGNED THE MEMORANDUM OF UNDERSTANDING (MOU) FOR CODEVELOPMENT OF THE FSX IN NOVEMBER, 1988. FOLLOWING EQUALLY THOROUGH NEGOTIATIONS, THE PRINCIPAL JAPANESE AND AMERICAN COMPANIES INVOLVED, MITSUBISHI HEAVY INDUSTRIES (MHI) AND GENERAL DYNAMICS (GD), SIGNED THEIR COMPANY-TO-COMPANY AGREEMENT IN JANUARY OF THIS YEAR.

IN MAY 1988, YOUR COMMITTEE REQUESTED THAT ANY AGREEMENT TO ENTER INTO CODEVELOPMENT AND COPRODUCTION INCLUDE PROVISIONS TO ENSURE THAT THE U.S. RECEIVES MEANINGFUL WORKSHARE DURING BOTH DEVELOPMENT AND PRODUCTION PHASES, AND THAT JAPAN PROVIDES TO US, EXPEDITIOUSLY AND WITHOUT CHARGE, ANY TECHNICAL IMPROVEMENTS SUBSTANTIALLY DERIVED FROM TECHNOLOGY PROVIDED BY THE UNITED STATES. THE FSX AGREEMENT MEETS BOTH OF THESE REQUIREMENTS.

UNDER THE AGREEMENT, JAPAN WILL COMPLETELY FUND THE FSX PROGRAM AND THE U.S. WILL RECEIVE APPROXIMATELY 40 PERCENT OF THE DEVELOPMENT WORKSHARE AND A SIMILAR SHARE OF THE PRODUCTION WORK. BASED ON THE PRESENT ESTIMATED FSX BUDGET, THIS AMOUNTS TO ABOUT \$480 MILLION IN THE DEVELOPMENT PHASE AND MORE THAN \$2 BILLION IN THE PRODUCTION PHASE, OR ABOUT 22,000 MAN-YEARS FOR AMERICAN CONTRACTORS OVER THE LIFE OF THE PROGRAM.

IMPACT ON U.S. INDUSTRIAL BASE

THE U.S. WILL HAVE ACCESS TO ALL TECHNOLOGY BROUGHT TO THE PROGRAM BY JAPAN. ADDITIONALLY, THE AGREEMENT PROVIDES THAT TECHNOLOGICAL IMPROVEMENTS BASED ON U.S. INFORMATION WILL FLOW BACK TO THE U.S. EXPEDITIOUSLY AND FREE OF CHARGE. TECHNOLOGIES THAT ARE SOLELY DEVELOPED BY JAPAN CAN ALSO BE ACQUIRED BY THE U.S.

THE FSX AGREEMENT CONTAINS A PROVISION FOR A TECHNICAL STEERING COMMITTEE TO OVERSEE THE DEVELOPMENT PROGRAM AND MONITOR THE TWO-WAY TRANSFER OF TECHNOLOGY AND THE ALLOCATION OF WORKSHARE. THE COMMITTEE IS CO-CHAIRLED BY GENERAL OFFICERS OF THE U.S. AIR FORCE AND THE JAPAN AIR SELF-DEFENSE FORCE. THE COMMERCE DEPARTMENT WILL ALSO BE REPRESENTED ON THIS COMMITTEE.

DOD, HOWEVER, DID NOT ENTER INTO THE FSX AGREEMENT FOR THE PURPOSE OF SEEKING TECHNOLOGY FROM JAPAN. IT ENTERED INTO THE AGREEMENT BECAUSE CLOSE INTEGRATION WITH JAPAN IN THE DEFENSE AREA BENEFITS OUR OWN NATIONAL SECURITY. IN THE PAST, TECHNOLOGY FLOW HAS BEEN PRIMARILY IN ONE DIRECTION: TO JAPAN. THE FSX AGREEMENT REVERSES THIS PATTERN BY PROVIDING A FRAMEWORK

WHICH WILL ALLOW SIGNIFICANT U.S. ACCESS TO JAPANESE TECHNOLOGY. WHILE SOME, OR EVEN MOST, OF THE TECHNOLOGIES THAT DOD IS INTERESTED IN EXIST IN SOME FORM IN THIS COUNTRY, U.S. INDUSTRY HAS NOT SUCCESSFULLY DEVELOPED THEM INTO USABLE TECHNOLOGIES ON THE SCALE INVOLVED WITH THE FSX. THE JAPANESE ARE PREPARED TO FUND RESEARCH AND ASSUME THE RISK OF THESE NEW TECHNOLOGIES, AND WILL PROVIDE US ACCESS TO THEIR DEVELOPMENTS. SUGGESTIONS THAT THE JAPANESE HAVE NOTHING IN WHICH WE WOULD BE INTERESTED UNDERESTIMATE JAPANESE TECHNOLOGICAL CAPABILITIES, IN MY VIEW, AND DENY OUR OWN DEFENSE INDUSTRY THE SYNERGISTIC BENEFIT OF TECHNOLOGICAL COOPERATION.

SOME HAVE EXPRESSED CONCERN THAT JAPAN WILL SOMEDAY BECOME A WEAPONS EXPORTER. WE THINK IT VERY UNLIKELY THAT MADE-IN-JAPAN FIGHTERS, TANKS, WARSHIPS, AMMUNITION, ARTILLERY, IN SHORT -- WEAPONS -- WILL BE EXPORTED. JAPAN'S LONG-STANDING OFFICIAL GOVERNMENT POLICY PROHIBITS THE EXPORT OF WEAPONS TO ANY COUNTRY AND ALLOWS THE EXPORT OF MILITARY TECHNOLOGY TO ONLY ONE COUNTRY: THE UNITED STATES. THIS POLICY -- ADOPTED BY JAPAN AT OUR REQUEST -- ENJOYS STRONG PUBLIC SUPPORT IN JAPAN ACROSS THE POLITICAL SPECTRUM. WHILE THERE ARE SOME IN JAPAN WHO WOULD LIKE TO SEE THE POLICY CHANGED, SUCH A CHANGE WOULD PRECIPITATE A MAJOR RUPTURE IN JAPAN'S SECURITY RELATIONSHIP WITH THE U.S. CLEARLY, SUCH A DEVELOPMENT IS UNLIKELY SO LONG AS WE CONTINUE TO DEMONSTRATE TO JAPAN OUR RELIABILITY AS AN ALLY IN A PARTNERSHIP REQUIRING TRUST AND COOPERATION.

IN THE SPECIFIC CASE OF FSX, THERE ARE PROVISIONS IN THE AGREEMENT WHICH PROHIBIT THE SALE OR TRANSFER OF THE FSX WITHOUT THE CONSENT OF THE U.S. GOVERNMENT.

CONCLUSION

NEITHER THE CONGRESS NOR THE AMERICAN PEOPLE SHOULD BE UNDER ANY ILLUSIONS AS TO THE CHOICES AVAILABLE HERE: THE ALTERNATIVE TO THIS AGREEMENT IS NOT OFF-THE-SHELF PURCHASE OF AN AMERICAN AIRCRAFT BY JAPAN. RATHER, IT IS THE REAL POSSIBILITY OF JAPAN GOING IT ALONE IN THE MILITARY AEROSPACE INDUSTRY, AND EVENTUALLY WITH ITS SECURITY POLICY, A PROSPECT THAT WOULD NOT BE IN THE NATIONAL INTEREST OF EITHER THE UNITED STATES OR JAPAN.

IT REMAINS IN OUR INTEREST, FOR BOTH MILITARY AND ECONOMIC REASONS, FOR THE UNITED STATES TO CONTINUE ITS LONG TRADITION AS A RELIABLE SUPPLIER OF MILITARY EQUIPMENT TO JAPAN. LAST YEAR, IT PURCHASED ABOUT AS MUCH MILITARY EQUIPMENT FROM THE U.S. AS THE UNITED KINGDOM, WEST GERMANY, FRANCE AND ITALY COMBINED. JAPAN NOW HAS ONE OF THE LARGEST DEFENSE BUDGETS IN THE WORLD, AND IS TODAY, AND FOR YEARS HAS BEEN, THE CORNERSTONE OF OUR DEFENSE POLICY IN THE PACIFIC. AS AMERICA COMES TO GRIPS WITH THE ECONOMIC CHALLENGES IT FACES, WE MUST PROCEED WISELY AND WITH OUR EYES OPEN, SO AS TO PRESERVE, ENHANCE, AND CONTINUE TO BENEFIT FROM THIS MOST IMPORTANT MUTUAL SECURITY RELATIONSHIP. ON THE OTHER HAND, IT IS DIFFICULT FOR ME TO SEE HOW FAILURE TO PROCEED WITH THIS AGREEMENT COULD BE IN THE NATIONAL INTEREST OF THE UNITED STATES.

THANK YOU.

Senator BINGAMAN. General Yates, did you wish to make a statement at this point?

General YATES. No, sir.

Senator BINGAMAN. Ms. Joan McEntee from the Commerce Department, we are pleased to have you here.

STATEMENT OF JOAN McENTEE, DEPUTY UNDER SECRETARY OF COMMERCE

Ms. McENTEE. Thank you, Mr. Chairman. I am very grateful to have the opportunity to appear before this committee today with my colleagues from Defense and State to testify in support of the agreement which President Bush has now approved for co-development of the FS-X fighter aircraft with Japan.

Over the past several months, I have personally participated in an intensive interagency review process, followed by a series of negotiations to obtain clarifications from the Government of Japan. As a result of these efforts, I am confident this agreement promotes both the security and economic interests of the United States.

The essential interrelationship between our economic and defense security interests is fundamental to understanding our approach to the FS-X project. While the United States has a long tradition of working with Japan on aircraft co-production, this agreement would mark the first time the United States will assist Japan to jointly design and develop a fighter aircraft.

Japan has long been interested in developing a commercial aerospace industry, but so far its targeting efforts have not been successful.

One of the key questions for the Department of Commerce thus became whether the knowledge transferred to Japan under the FS-X project would be sufficient to allow it to narrow the gap with the United States in commercial aerospace production. Would it give Japan sufficient design and integration data to create an independent capability which might ultimately challenge the U.S. pre-eminence in this field?

This administration is determined to maintain a technologically advanced defense industrial base second to none. I can assure you that the agreement in its current form, including the limitations on technology transfer which the interagency review produced, effectively limits the competitive threat to our industry in the future. It leaves key decisions regarding technology transfer in U.S. hands. Equally important, by making us partners with highly skilled Japanese contractors, it positions the United States to benefit from any technological advances which may be generated in the process.

The lesson of the FS-X is that it is possible to proceed with defense cooperation agreements without compromising economic security as long as we promote both objectives. These two goals are not mutually exclusive. In fact, they must be co-equal elements of our definition of national security.

From this perspective, the President asked Commerce and Defense to review the FS-X agreement. The Department of Commerce focused on issues of industrial base and competitiveness in the context of security objectives.

As a result of our review, the United States sought and obtained the following clarifications from the Government of Japan: A clear commitment that U.S. industry will have approximately 40 percent of the work in both the R&D and production phases; a determination that technology transferred to Japan will be appropriately limited and carefully controlled; a clear commitment from the Government of Japan that there will be significant technology flowback. We identified specific technologies of interest to us, and established conditions of access.

With these clarifications, the FS-X agreement will serve both our defense and economic security interests.

A further product of this review was the interagency agreement on procedures for discharging our responsibilities under the 1988 Defense Authorization Act and other authorities to ensure that such agreements do not adversely affect the U.S. industrial base and competitiveness.

The act calls for the Secretary of Defense to solicit and consider information or recommendations from the Secretary of Commerce concerning the effects on the U.S. industrial base of proposed defense related agreements between the United States and foreign governments.

As the FS-X project proceeds, the Commerce Department will participate fully in oversight and implementation. We will be watching two areas particularly closely. We will be actively involved in technology transfer to ensure that the parameters that have been established to protect commercially sensitive technology are fully respected, and that technology we do transfer is not used for other than intended purposes.

We will also be watching technology flowback to ensure that the flow goes both ways. Based on the clarifications from Japan on technologies we will have access to, we are convinced that our access to both Japanese improvements on United States originated technology and technology developed independently by Japan will be adequate to ensure that our commercial aerospace industry keeps its competitive lead.

Mr. Chairman, the agreement which the President has sent to the Congress for your consideration marks a significant turning point in our national approach to defense cooperation with other nations. From now on we will weigh economic, trade, and technological aspects along with defense considerations to determine our national security interest. Our Nation cannot be strong militarily if we are not strong economically. The process established by the President for balancing these interests ensures that defense cooperation projects will serve both the economic and military interests of the United States. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much. Let me start with a few questions. Can any of you interpret for me the word approximately that we have built into this agreement? What do we mean by approximately 40 percent of the production work share? Does that mean somewhere between 38 and 42, or does that mean 35 to 45, or does that mean 30 to 50? What does that mean?

Mr. CLARK. Mr. Chairman, it does mean that this is an experimental program that we are going through. The original MOU called for a range, a range between 35 to 45. The President thought

he needed a more specific figure than that, so we have included the figure of approximately 40 percent. It does not range 35 to 45. It will be very much taken into account as we go forward with the production MOU. But I would look at it more as a floor.

Senator BINGAMAN. Then I take it the use of the phrase approximately 40 percent is an indication that 35 percent is not acceptable?

Mr. CLARK. Absolutely, Mr. Chairman.

Senator BINGAMAN. And something much closer to 40 is?

Mr. CLARK. That is correct.

Senator BINGAMAN. Can you be more precise? Is 37 percent acceptable?

Mr. CLARK. I look at it more as a floor, Mr. Chairman. Therefore, I would not find 37 percent acceptable.

Senator BINGAMAN. You would not find 37 percent acceptable?

Mr. CLARK. No, I would not.

Senator BINGAMAN. So we are either at 38 or 39.

Mr. CLARK. And climbing.

Senator BINGAMAN. I will not require that it be nailed down beyond that. You indicated, Ms. McEntee, that the Commerce Department will participate in the oversight and implementation. Can you be more precise about the ongoing involvement of the Commerce Department? What do you expect it to be?

Ms. McENTEE. Since the President asked us to become involved and the interagency review took place, out of that review process was established something known as the TSC, the Technical Steering Committee. This is a committee on which Commerce fully participates, and during the negotiations and the further life, if you will, of the FS-X we will be participating in the reviewing of major decisions regarding FS-X. We will be very much an active player in the TSC along with the Defense Department. It is a new creation. It is a new committee. It is established specifically by the FS-X agreement.

Senator BINGAMAN. Does the administration have a position on Senator Danforth's bill which Senator Byrd and I are co-sponsoring, S. 578, which provides for a much greater involvement by the Commerce Department in future MOUs than is presently required?

Ms. McENTEE. No, Mr. Chairman. At this time we have not taken a position.

Senator BINGAMAN. I would like to ask about the FS-X engines. There seems to be some confusion there. I read over some of the letters going back and forth, and it seems as though we are leaving open the possibility of licensing the production of engines in Japan. At the same time, I am informed that there is not a commitment, or there is not a willingness, to allow certain parts of the engine technology to go to Japan.

Could someone clarify for me exactly what we have agreed to with regard to engine production and technology that is involved in engines?

General YATES. At this point and time the only thing we have agreed to is during the development phase, which is what this MOU covers. We have agreed to sell off-the-shelf engines to Japan for the development program. We have not agreed to anything regarding the production phase.

You are right in that the written documents that we have does leave open the possibility of co-production of the engines. Now that will have to be determined. A factor in that is the achievement of the approximately 40 percent production work share that you were just discussing. How does one get that, and what percentage of engines could you co-produce and still achieve the approximately 40 percent?

It will have to be decided in the future. The protection of the critical technology in the engines, the critical technology in the engines are two, what we refer to as the hot section. In other words, the critical metallurgy in the turbine section of the engine, and the digital electronic fuel control that meters the fuel to the engine. Those are the critical technologies.

Should we in the future decide to allow co-production of the engines, those sections would not be eligible for co-production, just, I might add, as they have not been eligible for co-production on the engines for the F-15 which Japan has been producing for the last—co-producing—for the last 10 years.

We have safeguarded those same technology areas for the F-100 engine for the last 10 years.

Senator BINGAMAN. So under a new set of circumstances, your understanding is that the technology which we presently have exclusively that is involved in this engine, in either the General Electric or Pratt & Whitney engines, will not be transferred, even if we decide to go into co-production on engines?

General YATES. Yes, sir, that is absolutely correct. Sir, if I could add one other thing at this juncture, because there has been considerable discussion before this about how do we know that Japan will abide by the agreement that we have written here.

One of the key elements here that is different perhaps from other prior agreements is that this agreement is not without teeth. We do have about a 4-year period to observe how they comply with the terms of the development MOU.

As was mentioned earlier by Senator Danforth, if we go to production, we have to come back to the Congress with a new MOU, and I am certain that part of that approval process is going to be to explain how they have complied with the one immediately preceding.

The leverage that we have over Japan at this point is that if they have not complied, or we are unhappy with whatever they have done, then we can stop the entire program by not selling them the engine. We have a lot of leverage. They will have invested \$1.2 billion in development of an airplane that they cannot fly without our engine. I am not going to tell you that it would be impossible to go out to a European country and buy another engine and put it in the airplane. It would be possible. But I am going to tell you that we have done that in the Department of Defense. It is an expensive proposition. It takes hundreds of millions of dollars, and it takes 3 to 4 years.

So there would be a tremendous penalty to Japan should they not comply with the terms of the agreement. They are well aware of that. They are well aware of the fact that we have this leverage and we have been careful not to compromise that leverage during the course of this discussion.

Senator BINGAMAN. Thank you. My time is up. Senator Wallop. Senator WALLOP. Thank you, Mr. Chairman. General Yates, I think it cannot be stated, and restated, and restated often enough that this is not the first co-production agreement that we have had with the Japanese.

Second, Mr. Chairman, I was loathed to make the observation when Senator Danforth was here, but the big defense employer of his State very strongly supports this agreement. McDonnell Douglas is very much behind it, and would not, I think, be behind it had they seen visions of future competition that they could not surmount on the wall.

Let me just ask you, can you elaborate on your understanding of the application, if any, of the F-16 technology that will be transferred under this agreement to commercial aircraft industry?

General YATES. First, I would say in sum that we think we have very good safeguards regarding transfer of this technology anywhere outside of the FS-X program. The memorandum of understanding prohibits the transfer of this technology to a third country. It also prohibits the transfer of this technology to any company which is not involved in the FS-X program without the prior approval of the United States.

Again, should that be violated, that would be one of those things we would make a judgment on at the time of the production MOU.

Further, the MOU directs that the Japanese Defense Agency will monitor that process and will take civil action against any transfer of that information to another company.

As far as the applicability is concerned, again, the airframe is basically the same technology both in terms of the metals and composites involved, and in terms of the aerodynamics, it is the same generation technology as the F-15 which they have been co-producing now for 10 years.

I do not see that that is directly applicable to the commercial aviation industry. There have been two things which have been widely discussed in the press that have to do with computer software codes. I can get into these in more detail, but let me just summarize. The two computers that we have been talking about the source codes which are, number one, what the Japanese call the mission control computer and what we call in the F-16 the fire control computer. That is my answer about how applicable that technology is to commercial aviation. Airliners do not use fire control computers.

The other source code which is involved had to do with the digital flight control system. That is different. The first F-16 with a digital flight control system rolled off the line last December. It is new. It is state of the art software. It would be applicable to commercial aviation. It would have to be changed just like the software will have to be changed for the FS-X, but it certainly would be applicable. We are not transferring any of that software code. That is part of the agreement.

The avionics in the airplane, the next group of major things. First, it comes from two sources. Either the avionics are bought direct from U.S. manufacturers, or they are manufactured in Japan. We are not transferring any of the major items of avionics on the airplane to the Japanese. They are building their own. Over

the last 7 years most of the R&D in the F-16 program, the United States' F-16 program, has not had to do with the airframe. It has had to do with the engine which we have already discussed, and the avionics. Neither of those technologies are being transferred.

I see, as do all of our technical experts, the probability of transfer to the commercial aviation industry of these technologies as low.

Senator WALLOP. Thank you, General. And surely probably not as high as what they already co-produced with Boeing in terms of commercial aircraft bodies.

General YATES. That is correct.

Senator WALLOP. Let me ask you one other one on the same kind of line. Opponents of this agreement have stressed the United States/Japanese trade balance all but demands that the Japanese purchase their FS-X aircraft from off-the-shelf. My question is is it not true, however, that there exists no such aircraft in the U.S. inventory which is suited to meeting the scope of the threat for which the FS-X is being developed? And is it not also true that co-development will in fact allow the United States to gain advances in both co-cured composite structure and in miniaturization and radar integration, both without outlay of U.S. manpower and money?

General YATES. It is true that we do not have an airplane which meets the Japanese military requirements as stated.

Senator WALLOP. Are those legitimate requirements? I think that needs to be answered.

General YATES. They have been evaluated by the Joint Chiefs of Staff, they have been challenged, and they are legitimate. They are legitimate in general. There are some that we would take issue with. Those are in the margin, but in the main they are viewed by us as legitimate.

Senator WALLOP. In your view they would not be a concoction just so the F-16 would not fit it?

General YATES. No, sir. It fits the military situation that they are designing the airplane for.

As far as the flowback of technology, the two main areas that you have just mentioned, a lot has been made about this deal as if it were constructed to be an evenly weighted deal with an even amount of technology flowing to Japan and technology flowing to the United States. That was never an objective, and it is not evenly weighted.

There is a possibility that the two technologies co-cured composite wing and active element transmit and receive modules for radar antenna. There is some possibility that if the Japanese are successful with those technologies, that they would flow—pardon me—they would definitely flow back to us, but there is the possibility that they would be very useful to us. The reason I am bringing up the word possibility is we do not know that the Japanese can do this. They think they can. They are proceeding with the development of a co-cured wing and they are not building an alternative. Usually when we are proceeding with a very risky development, then right along in parallel with that we bring a fallback position. They are not doing that. They are very comfortable that they can do it. We do not have much confidence that they can do it.

The transmit and receive modules—and by the way, neither of these technologies are new technologies that we do not have per se. They fall more into the category of manufacturing technologies. The transmit and receive modules are a perfect example. We manufacture transmit and receive modules, active elements in this country. We manufacture them at Texas Instruments, we manufacture them over here in Baltimore at Westinghouse. The point is that it takes over 2,000 of these to populate one radar antenna. It costs us about \$4,000 to build one of these. They are about the size of this pencil. That is about \$8 million for a radar antenna. Clearly, it is not an affordable thing. So we have to reduce the cost by an order of magnitude.

We all know that the Japanese have been very successful in the past at bringing down the manufacturing cost of electronic components. The history tells us when they put their mind to it that they have been very successful. That would be very beneficial for us, but I do not want to leave anybody with the idea that the Department of Defense is sanguine that these technologies will be developed by the Japanese. What we are sanguine about is if they are developed by the Japanese, we will get them.

Senator WALLOP. Thank you, Mr. Chairman.

Senator BINGAMAN. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman. General Yates, I think it was yesterday that General Moore, who is the Director for Operations at U.S. Pacific Command told the committee that Japan would be able to meet their defense responsibilities, including defending the sea lanes out to 1,000 miles, faster if they bought our F-16 or modified F-16 than if they developed and produced the FS-X. Do you agree with that?

General YATES. Yes, sir. Let me get that statement. It would be faster if they used a modified version of the F-16 than if they developed their indigenous airplane?

Senator LEVIN. Rather than if they developed with us an FS-X. In other words, if they bought the F-16, or a modified version of the F-16, it would be faster to get to the defense of the sea lanes out to 1,000 than if we co-produced an FS-X with them.

Let me rephrase it. Do you agree it would be faster if they bought the F-16 than if we co-produced an FS-X together with them?

General YATES. Yes, sir. There is no doubt about it.

Senator LEVIN. So they would get to their responsibility and commitment of defending those sealanes out to 1,000 miles faster with the F-16 than with the FS-X?

General YATES. Yes, sir.

Senator LEVIN. Is it not true that we tried to get them to buy the F-16 off-the-shelf from us?

General YATES. Yes, sir.

Senator LEVIN. Did we believe when we urged them to do that that such a purchase from us would meet the legitimate military requirements?

General YATES. We did not believe it would meet all of the things that they had established as military requirements because it will not.

Senator LEVIN. Why did we try to get them to buy the F-16?

General YATES. We thought it was good enough and, clearly, there are more advantages to the United States as we have discussed here today of them buying an off-the-shelf airplane.

Senator LEVIN. Did we believe it would be adequate for their needs?

General YATES. Yes, sir, we did.

Senator LEVIN. Did we also indicate to them that we could produce an F-16 and modify it here for their needs?

General YATES. I do not know that firsthand. I would have to answer that for the record.

Senator LEVIN. If you would.

[The information follows:]

FS-X AIRCRAFT AGREEMENT

Yes, sir. DOD's initial position on the FS-X program supported only the sale or licensed production of an "as-is" F-16 or F-18 fighter. As an interim measure to be competitive with the Japanese domestic development option, the sale or licensed production of an improved fighter was offered. The concept of joint or cooperative development evolved later as a result of much dialogue and the very clear realization that Japan intended to enter domestic development.

Senator LEVIN. We at least urged them to buy the F-16 off-the-shelf because we believed the F-16 was adequate to meet their needs?

General YATES. Yes, sir. If I could add, they did not agree with that, of course.

Senator LEVIN. I am sure they did not. Do other countries buy the F-16 off-the-shelf? For instance, well, maybe a dozen other countries buy our F-16?

General YATES. Other countries buy F-16s off-the-shelf. Sir, I would have to add we have not sold an F-16 off-the-shelf to a major industrialized nation in the past decade. The F-16 has already been brought up to date, co-produced by four Northern European countries. It is co-produced in Turkey. There is a considerable amount of co-production in Israel. It would be abnormal to sell an off-the-shelf F-16 to an industrialized nation.

Senator LEVIN. And that is principally because they want the jobs?

General YATES. Yes, sir. There are economic benefits to them and, of course, longstanding supportability and sustainability issues.

Senator, if I could add one thing. I think what distinguishes this agreement from all those others is the co-development aspects of the agreement. The co-production portion is pretty much routine.

Senator LEVIN. I understand what is unique about this is that Japan has a trade deficit with us that is equal to the next five countries combined. That is what is unique about this situation as far as I am concerned. The question is whether or not they are going to buy things from us which meet their needs when they want to sell everything freely here. That is the trade issue that is involved here, and that is why I want to get to the Commerce Department with some questions next.

I gather, Ms. McEntee, that we urged Japan to buy off-the-shelf? You conceded that?

Ms. McENTEE. I am told so, yes.

Senator LEVIN. You conceded that it would have been cheaper for them to buy off-the-shelf than it would be to produce an FS-X?

Ms. McENTEE. I think it is true, yes.

Senator LEVIN. Is there any doubt about that in anybody's mind? You all are agreeing to that. So they could have bought these more cheaply. They could have protected the sealanes more quickly, I think we just established from General Yates, if they bought the F-16. Is there any doubt in your mind, Ms. McEntee that the reason they want to co-produce this is they want the jobs in Japan, that is the principal reason?

Mr. FORD. There is in mine.

Senator LEVIN. Is it not clear that they want that economic development in Japan?

Ms. McENTEE. I think certainly that is an aspect to the agreement.

Senator LEVIN. Is that not a principal reason?

Ms. McENTEE. I think that is the principal reason, yes.

Senator LEVIN. They, as I understand it, have been interested in developing a commercial aerospace industry. Is it true now, to add to your testimony, that they continue to be interested in developing that?

Ms. McENTEE. Absolutely.

Senator LEVIN. Do you believe that this agreement will help them to produce such an industry? I am not saying it will close the gap entirely, but will it help them, assist them, to develop their own commercial aerospace industry?

Ms. McENTEE. Senator, I think the best way to answer that would be to be very honest and say that if the Japanese decide to target an industry, they will continue to do so. The question is whether this agreement will help further that goal. As far as we are concerned, this agreement does not further that goal. If it does in any way, it is very minimal.

Let me add the reason for that answer is because of the limitations and protections that have been placed as far as the technology transfer.

Senator LEVIN. My time is up. Thank you and thank you also for inviting other members of the committee, Mr. Chairman. We appreciate it.

Senator BINGAMAN. We are pleased to have you here. Senator Dixon.

Senator DIXON. Mr. Chairman, let me also express my appreciation for the opportunity to be here. I am not a member of this subcommittee. It is most accommodating of the chairman to permit those of us from the entire committee to come here and participate in the questioning. I appreciate that very much.

General, I was a little surprised by your statement that seemed to imply that the military side of this has not got much to do with commercial aircraft or civilian aircraft development. I thought that was implied in the statement you made in a previous answer to one of the questions. Did I interpret that correctly?

General YATES. Yes, sir, you did.

Senator DIXON. I have here a statement from the Minister of Interior Trade in Industry in Japan, their equivalent of our Commerce Department, that states that technological development of

both civil and military aircraft mutually supplement and complement each other because, and I quote directly, "Development and manufacturing techniques of both are closely related, and technological spinoffs can be mutually anticipated." That is the interpretation of the Japanese.

General YATES. I would have to see the whole thing and understand the context in which he said that. I have not seen it before. The point is that we have in the Air Force conducted an exhaustive review of each and every item on the F-16. I would be happy to provide that to you. That was conducted by the Aeronautical Systems Division of the Air Force Systems Command. It is our judgment that the things that we are providing to the Japanese are not currently state of the art. Do not forget the F-16 was an airplane which was designed between 1975 and 1978—

Senator DIXON. And has had, of course, substantial advance technology developed since that time right up until the moment you and I are together in this hearing room.

General YATES. But, sir, only in the areas of the engine and the avionics, and we have discussed that previously. The main area where we spent the majority of our research and development funds are in the avionics which they are building themselves. They are not recipients of that R&D.

The engines we have already talked about.

Mr. FORD. And Senator Dixon we are not saying there is absolutely zero spinoff effect for the commercial aircraft industry.

What we are saying is that, if they want commercial aircraft building experience, it would be far more appropriate for the Japanese to proceed with their current joint ventures with U.S. companies directly to build wide-bodied commercial jets.

Senator DIXON. Well, the system's integration is valuable to them, is it not, Mr. Ford?

Mr. FORD. If they want to build commercial wide-bodied jets, they simply follow through with the agreements with U.S. companies they already have. They do not have to get that from military aircraft. And what they get as General Yates has pointed out, is so minimal, it does not really make much sense.

But we have taken all the precautions that we can to make sure that this is strictly a military transfer, has little, or no civilian spinoff to it, and that, if the Japanese want to, they can approach Boeing, or other companies, and have joint ventures. They have already done that. It has not been—

Senator DIXON. Well, of course, we have a lot of co-production agreements. Everybody understands that. This is our first co-development agreement with them.

We rejected the same thing with our friendly allies, the Israelis.

Mr. FORD. I am not quite sure.

Senator DIXON. Well, of course we did.

General YATES. You mean on the Lavi?

Senator DIXON. You mean of the Lavi?

Mr. FORD. We were prepared to do that. They were—

Senator DIXON. Well, let me pursue another question with you.

General, you had talked about the transfer of technology to other countries—how this MOU prevents that. But, just last year and the year prior, we concerned ourselves at great length with activities of

companies in Japan that transferred our secret submarine technology to the Soviet Union at great embarrassment to the United States.

I understand from the testimony in this committee that it will cost about \$30 billion and put a lot of our people at risk on the high seas in the world—that was in violation of COCOM agreements and other letters of understanding with Japan. Why do we think that where a violation took place there, it will not take place now?

Mr. FORD. Senator Dixon, we feel as badly as you do about what has happened on the commercial side in terms of the loss of our technology. If there is anyone who is sensitive about this technology loss, particularly with the military angle, it is the Defense Department.

We have been trying over the years to tighten up and make sure that all of these arrangements are very carefully looked at before each sale.

Now, on the defense side, we, quite frankly, have had a much different track record with the Japanese than has apparently been the case on the commercial side, and in these technology diversions.

To our knowledge, there has absolutely not even been one diversion of military technology that has been controlled by the Japanese military.

Senator DIXON. Well, if I may interrupt at that point in time. What you are saying in essence is Mitsubishi will not do what Toshiba did.

Mr. FORD. No. What we are saying is that any Japanese private company on contract by the JDA in Japan has not been involved nor given military technology away to anybody.

We admit that there have been commercial firms working on their own that have, obviously, sold the technology to the Eastern bloc, Soviet Union. We abhor that.

We have a much different control mechanism on technology that is defense related. We have a different set of mechanisms. In fact, what we tried to do over the last several years, is make the commercial side the same as the defense side in terms of their effectiveness in controlling our development—

Senator DIXON. All right. Well, let me ask you this question. We are distinguishing here between Toshiba and Mitsubishi. Does your department have full information now about the situation in Libya as to whether Mitsubishi did, in fact, manufacture the canisters for the nerve gas?

Mr. FORD. Well, State has got an answer for that. I would be happy to answer myself, too.

Mr. CLARK. We have reviewed it, sir. We have no indication that any Mitsubishi company was involved in the chemical weapons production.

Senator DIXON. Now, the canisters, Mr. Clark, the canisters. Not the chemical weapons—the canisters that hold the chemicals.

Mr. CLARK. Sir, I can go into this in closed session. I cannot go into it in this session.

Senator DIXON. Well, one of the frustrations this Senator has is even this MOU is marked secret and classified. We had the Base

Closing Commission report marked secret and classified. Everytime you touch a nerve, you cannot talk about it.

But I want to say for the record and public that Toshiba sold our secret submarine knowledge to the Soviet Union, and if Mitsubishi is manufacturing canisters for nerve gas in Libya, I do not feel comfortable about them in co-development on an FS-X advanced airplane, using the technology we have developed in the F-16. And I think we ought to know that in the U.S. Senate.

Those charges have been made by reputable people in this country.

Senator BINGAMAN. Senator Dixon, let me just indicate we will be in closed session after we finish with this panel, and at that point, if some of them will remain, we will be able to ask those questions.

Senator Coats has agreed to allow Senator Gore to go ahead with his questions since he has been here, and since he has to return to his office.

Senator GORE. I appreciate my colleague's courtesy very much, and thank you, Mr. Chairman.

Let me ask the witness from the Commerce Department—first of all, Ms. McEntee, do you have a clear view of what Japan's strategic plan is for civil aviation?

Ms. McENTEE. We—a clear view, meaning——

Senator GORE. Do you know what they most need?

Ms. McENTEE. What they most need, Senator?

Senator GORE. Yes.

Ms. McENTEE. We know that they have targeted the aerospace industry as a——

Senator GORE. What components do they—what are the missing elements, what do they most need, what are their bottlenecks?

Ms. McENTEE. No.

Senator GORE. We do not know that? Does anybody in our Government know that?

Ms. McENTEE. I would presume that several people have an idea.

Senator GORE. I would not presume at this point, but I mean no disrespect.

I think it is logical to assume that they need an engine. They need experience in working with advanced materials for an airframe. They need, probably most of all, direct experience in integrating the systems of an aircraft of this complexity. And that is the most valuable thing they will get out of this agreement.

It will save them a lot of time. It will probably—they would probably get that experience anyway, but that is what they would get out of this that they would most value.

I guarantee you, Ms. McEntee, that they have a plan—a very sophisticated plan, and I guarantee you that this agreement is part of that plan.

It might be that we should agree to it anyway. I am going to withhold my own judgment on this matter until I have had an opportunity to sift through all of the evidence. I see it as a closed question.

I think there have been improvements in the MOU. I was quite concerned about the source code problem earlier on, and I think it

would have been a very serious mistake to go forward with the agreement as the administration originally designed it.

The source codes for the flight control computer have now been protected. I think that problem has probably been bounded.

The work share problem has been addressed. I am not sure it has been satisfactorily addressed.

But this issue, for me, does not hinge on the details of the memorandum of understanding. It hinges on the bigger picture of the United States-Japanese relationship.

And even assuming that the contract for the FS-X is in good order with respect to source codes and the retransfer of technology—I do not think we are going to get anything whatsoever of value back under this agreement. I think that is a fiction, or almost certainly will turn out to be a fiction.

But the fact is that this arrangement from Japan's point of view has a particular, well-thought-through place in an ongoing commercial strategy. Otherwise, on purely military grounds, of course they would have bought a plane off the shelf from us. Obviously, it is only because it has a place in their larger military commercial strategy that they are interested in this agreement.

Now we have in a larger sense, the rights and prerogatives of two great nations colliding over what is both a tangible and a symbolic issue.

We feel that we have a right because we have gone to such lengths to defend our ally—because we are the best in the world at producing jet fighter aircraft. And because the balance of trade deficit is so large, we feel we have a right to expect them to purchase this plane off the shelf, and we do.

They, on the other hand, have a right to expect that as a very powerful and innovative economy, intelligently directed, growing extremely rapidly with needs and prerogatives, they feel they have a right to meet their own needs with the great talent, resources and expertise, and technology that they have available to them. And what they do not have already, they certainly have the capacity to develop.

So, how do we resolve these two sets of prerogatives? It is further complicated by the fact that both military and commercial strategies and interests are involved. It will be an apples and oranges decision. National military security and national economic security measured by different units of account.

The only bridge between these two ways of looking at the controversy would be a farsighted U.S. strategy to sustain our lead in aerospace, and we do not have that. It is nowhere. It is absent. As a result, this is a very, very tough call.

The national aerospace plane, for example, has just had the 70 percent of its budget contained in the DOD account eliminated. That is the next generation of aircraft. That is where the aerospace industry is headed. We have taken 70 percent and eliminated it.

We are told not to worry, because that will be picked up in NASA's budget. Should we take that statement on face value? Well, of course not. It is a fiction. We are lying to ourselves. We are pretending that we are going to do it on the civilian side, when really, we are not.

Now if Congress votes down FS-X, and I will conclude forthwith, Mr. Chairman. Let me just, with my colleagues' indulgence, finish up.

If Congress votes down FS-X, it means that we have turned an historic corner for good or ill. It would mean that Congress is prepared to wager Japan's value to us as a military ally. And Japan's threat to us as an economic competitor and give first priority to the second consideration. And it would be the first time ever that we did so.

We would then have serious, ongoing disputes with our two foremost military allies—the Federal Republic of Germany over nuclear weapons policy and Japan over the FS-X.

We will be prepared to let Japan do whatever it deems in its own interest and live with the consequences of that, rather than proceed with the FS-X.

Will it be because of the FS-X as such, or because of the FS-X as a symbol. Well, we are told that this co-design deal is the first of others. And, indeed, it may well be.

But what I come back to in conclusion is, what is the future for our aerospace industry? Co-design of how many other systems, until the overseas market for U.S. aircraft is gerrymandered, and our technological lead in this—one of the few remaining areas where we have a lead, is frittered away?

And what is the administration's plan for aerospace? We do not have an estimate of what Japan's plan is. We may, somewhere in the Government. But we do not have anywhere in this Government a plan for America's aerospace industry.

What is the rational approach to avionics—to the underlying of civilian electronics industry?

If there is no sign of any dawn in strategic economic thinking, then maybe we should induce a crisis now, rather than let it creep up on us later. I do not counsel that at this point, but I do believe that this issue has to be looked at in a much larger context.

In the absence of any strategic economic thinking, it makes it very difficult for the Congress to choose a wise course. We are between a rock and hard place.

But I will wrestle as a member of the subcommittee with the correct decision, and I appreciate my colleagues' patience and indulgence.

General YATES. Mr. Chairman, could I make two comments on Senator Gore's remarks?

Senator BINGAMAN. Yes. Go right ahead.

General YATES. First, Senator, the next generation of airplanes for the U.S. Air Force—we do know what it is, and it is the advanced tactical fighter.

The technologies for the airframe, in terms of aerodynamics, in terms of materials, and also, as you mentioned, avionics and engines, have nothing in common with the F-16 technology at all. Those things are not pie in the sky.

With the Congress' support, that program is pressing on. Parts are in manufacture today. The engines have already run. We are doing demonstrations with the avionics. We have a handle, and we certainly have a clear plan on where we are going—

Senator GORE. On the military side?

General YATES. On the military side, yes sir, that is true.

Now, the other thing you said, and very correctly—I would agree with you. The critical issue in any—in Japan, or any other country, developing their own airplane, is systems integration, or integration engineering.

But earlier, Senator Danforth brought this up, and I would ask you to think seriously about it. I think there are only two realistic possibilities that we are dealing with here. Because I really do not think that off-the-shelf purchase is a realistic possibility.

So the possibilities that we face, I think, in this particular issue are two. One, a cooperative development deal, such as we have been discussing here today, or an indigenous production of the next fighter by Japan.

If we do take a longer view, as you just suggested in this, and we consider where we would be in the year 2005 on those two alternatives, I really do not think that we could argue with the prospect that if there is a co-development where they are dependent upon us for important and critical aspects of the development—where they will not, and in fact, the art of systems engineering is the art of the starts and stops and the mistakes in learning by your mistakes, because it is not a clear path when you start out to solve a problem.

When you start out to solve a problem, the truth of the matter is, many times you do not know if the problem, even if it looks as if it is an avionics problem, you do not know if it is an avionics, or airframe, or engine. And that is the systems engineering art.

Now, you know, if they are dependent upon us, which surely they are in this deal, you have to conclude that they will be a lot further less far down the path to learning about systems engineering in 2005, than they would, if we said today, or we forced them to go it on their own.

If they went on their own today, there would be a setback to their fighter production program. I do not know how you would measure that 3 or 4 years. But by the year 2005, taking a longer view, as you suggested, they would be much further along in learning how to do real systems integration.

Senator BINGAMAN. Thank you very much.

Senator Coats, thank you for your patience.

Senator COATS. Thank you, Mr. Chairman.

And General Yates, your response answered a number of my questions. I share the opinion of my colleagues from Tennessee and Illinois about how tough a call this is. And it is a tough call, because—partly because, beyond the merits of the issue, it is a tough call, because there is so much symbolically wrapped up in this, and there are so many political considerations.

If we—if this Senator were just to go on pure political considerations, I would not even be asking any questions. It is clear what the people of Indiana want. There is a deep, deep fundamental distrust of the Japanese.

There is a deep concern on my part about the whole Toshiba incident, and whether we are just simply transferring technology that can be retransferred.

There is a fundamental division between our two cultures as to the Japanese priorities, and whether they share the same sense of

priority in terms of defense of the Free world—the free enterprise system that the United States shares.

There is deep resentment over their lack of expressed concern and involvement, and participation in the defense of the Free world.

And so, if I were just to make a political consideration—popular decision—popular back at home, it would be an easy choice for me.

But I think we are called upon to do what is best for the long term interests of the United States, and to put the facts ahead of the motion—facts ahead of feeling. And I am attempting to get the facts as the best that I can.

General Yates, you raise, I think, the relevant questions in your response to Senator Gore. And you give pause to why it is important for all of us to evaluate longer range considerations than just current political implications.

I want to ask a couple of questions about the F-16. And I am new to the committee. I do not have a long background in experience relative to U.S. technology and capabilities. I kind of had the impression when I came here, the F-16 is a pretty good airplane. The last 3 or 4 weeks, I have suddenly found that it is this rusting, aging relic that ought to be put on the shelf. [Laughter.]

Nobody wants it. I am not sure if we not only could not sell it, but it sounds like we cannot give the thing away. Now, is it really—

Senator BINGAMAN. It sounds better when we get in our budgets' hearings. [Laughter.]

Senator COATS. Is the thing really that bad? How far away—how quickly is the F-16 approaching obsolescence?

Well, who wants to tackle that one?

General YATES. Senator, the first thing I would say—it is clear that we have gone too far in our defense of this project. [Laughter.]

Well, the F-16 is a premier fighter. It is in great demand from countries all over the world. There are about—round numbers, 3,000 F-16s flying in the world today. They are our front line fighter. It is our front line—what we call multi-mission fighter.

And, by the way, the Japanese FS-X is another multi-mission fighter.

The F-16 will continue to be our front line fighter through the year 2000 as far as multi-mission. Now, it will complement the ATF, which I mentioned earlier.

So it is not a relic, but like everything else, we make improvements to the F-16. So the F-16s that we are producing today are not the F-16s that we produced in the early 1980s, nor will the F-16s that were produced in the late 1990s be those that we are producing today.

So it is not—I think that, unfortunately, and this is one of the problems that you have, I think, in talking to the people back home—unfortunately, you cannot sum up an F-16 as an entity. You have to look at the technologies individually. And that is what we have done in this agreement. We have individually looked at those technologies. We have determined what the smart things are to do with each and every one of them.

There is a whole long list that Secretary Cheney read the other day in his testimony, which I could go through with you of things

we are not releasing. Many of them for security reasons. Many of them because they have direct, commercial application.

So the point is, that we are being smart about the things that we are releasing now.

The F-16 as an entity is not all the same age. There are parts of it that are brand new as I mentioned earlier—digital flight controls.

There are parts of it that are advanced technology, carbon carbon brakes, for instance.

We are not releasing those things to the Japanese. So they will have to buy those as end items from us, just as they would any other advanced technology. So we are not transferring that in the least.

What we are transferring—the technology we are transferring is technology that is 1975 to 1980 vintage technology.

Senator COATS. Ms. McEntee, are you absolutely convinced that—

Thank you, General Yates.

Are you absolutely convinced, Ms. McEntee, that under no circumstances would the Japanese buy the F-16 off the shelf?

Ms. McENTEE. Yes.

Senator COATS. Mr. Clark, do you share that view?

Mr. CLARK. Yes.

Senator COATS. Mr. Ford, do you share that view?

Mr. FORD. Yes.

Senator COATS. And so our choice becomes simply one of what we can do on a co-production basis that perhaps could enhance our own technology for the future, as well as provide the Japanese with something they are going to do anyway?

Ms. McENTEE. Yes.

Mr. FORD. That is correct.

Senator COATS. Ms. McEntee, are you convinced that the changes made in the memorandum of understanding—is Commerce convinced, that those are all the changes that need to remain—that they are sufficient to give the United States these protections that we need, in terms of technology transfer?

Ms. McENTEE. Yes, Senator. And let me just say that Secretary Mosbacher had some of the concerns, as mentioned by some of the members—the economic concerns, the trade concerns.

Obviously, as I said, our history dealing with the Japanese as far as on the economic side—the trade side is quite a bit different. And we had some of those concerns. We feel that the ambiguities clarified in those letters of clarification addressed those major areas of concern, and we are convinced the agreement is worthy of total support.

Senator COATS. And one last question. Mr Ford, General Yates, are you convinced that the potential gains that we get back are worth the deal?

Mr. FORD. As General Yates said earlier, we did not enter this agreement on the proposition that we were going to get a lot of technology back from the Japanese. We did it because it is in U.S. national security interest, and because the commercial and technological issues are adequately protected.

It just so happens that there are a number of high risk areas that the Japanese are prepared to put R&D money into. If it works, there will be technology flowback.

There are a couple of other areas in which the Japanese are very good at. They have also agreed that if they put them on the FS-X, U.S. companies will have access to them.

So that, yes, there is some technology flowback. In fact, it is one of the first times we have ever been able to negotiate an agreement which does contain provisions like this. We are proud of it, but we do not want to oversell it, because the Japanese could fail, and then there would not be so much technology transfer.

Senator COATS. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you.

Let me ask a couple more questions before we dismiss the panel, and maybe others would want to do a second round, too.

On the F-16 technical data package, my information there is that there are literally thousands of line items that describe what is in that technical data package. And that the administration has to go through and review and agree to release each of these line items.

Is it your expectation that all of these line items will eventually be approved for release?

General YATES. No, sir. As a matter of fact, we know for sure that there are some line items in there that we will disapprove.

Senator BINGAMAN. Are there general areas you could identify for us, or maybe that you did identify in some of your earlier answers?

General YATES. Yes, sir, I can tell you in general what the general areas are. I did that—some of that earlier. Anything to do with security—anything that has to do with parametric experimental methods, air foil, wing design methods, advanced computer-aided design computer-aided manufacturing. The carbon carbon I mentioned. Any high temperature materials, VSIC. And in the engine hot section, and fuel control I mentioned earlier.

So those are general areas. But we really have to deal with it bite by bite in that agreement.

Senator BINGAMAN. Could you give us that list that you just went through there for the record?

General YATES. Yes, sir, we could include that. Yes.

[The information is retained in committee files.]

Senator BINGAMAN. The Department of Commerce will be involved in the review of this technical data as you decide what to release?

Ms. McENTEE. Yes, sir.

Senator BINGAMAN. In the letter that Ambassador Matsunaga wrote to Secretary Baker on April 28, he says in there, "The U.S. side will have full access to technologies other than," and then he lists four, "radar, electronic countermeasures, inertia reference system, and mission computer hardware, to procedures established in the MOU, and the participation and no cost of U.S. personnel who wish to do so in each of the phases of design prototype manufacturing and testing in the course of this development program."

I need to know what your understanding of that is.

Is it accurate to say that my reading of that—not having been involved in any of the negotiations—is that, essentially under this question of technology flowback, essentially all the technologies used on the plane, other than those four, are intended to flow back to the United States, free of charge, as derived technologies?

Is that your understanding?

Ms. McENTEE. That is correct.

Senator BINGAMAN. How will that occur? I am just unclear as to—ones that come back to the companies—to General Dynamics, or the other firms that are involved in this? Or does it come back to the U.S. Government? And, if so, where does the patent for this technology reside?

A simple example of, for example, flat panel displays. I assume we will use flat panel displays in this plane? I think that is dual use technology? I think it would be of use to some companies in this country to have that technology.

How do we accomplish the flowback of that and other similar types of dual use technology, which they have agreed to flow back?

Ms. McENTEE. I can talk about the difference between derived and non-derived, and why it is in there, and the point was made.

But the process of what I think you are actually after—actually, who will have access, who pays, and how that process actually works. For that, I will turn it over to my friend from the Air Force.

Senator BINGAMAN. Okay.

General YATES. The non-derived technology—and by the way, I have to say that the term derived technology, we took right out of the language from this committee from last year, because you tasked us with making sure derived technology flowed back.

Non-derived technology comes back through the—if it is military technology, comes back through the Joint Technology Military Commission, which was established several years ago with Japan.

Now, if that is offered back—like, for instance, before you mentioned, flat panel displays—for instance, if they use that. The four items that you mentioned would come back, and there would have to be some sort of a commercial deal struck with a U.S. company. In other words, like licensed production—

Senator BINGAMAN. Let me just clarify my point. Flat panel displays are not in the four mentioned.

General YATES. My mistake. I should not have said that. I am going to come to that in just a second.

Senator BINGAMAN. Okay. Just to understand—those four, you have got to have a deal, and you got to work out the price.

General YATES. Right.

Senator BINGAMAN. But for the dual use technologies that are used in the aircraft—

General YATES. Okay. Anything else, other than those four, come back to us, free of charge. And they would come back through the Technical Steering Committee, and you know, that flows back to the U.S. with zero investment of the U.S. taxpayer's dollar. And we are guaranteed to get the technology.

You mentioned in there—we get to test it, we get to oversee it. So that will belong to us.

Senator BINGAMAN. So it is transferred back to the U.S. Government?

General YATES. Yes, sir.

Senator BINGAMAN. Has the U.S. Government, and have you, discussed how that would be made available to the United States?

In the case of dual use technologies, do you have a procedure by which that free technology that is flowed back is made available to U.S. industry?

General YATES. No, sir, we do not. But we clearly recognize that it is something that we have to do. And we would have to work that with Commerce.

Senator BINGAMAN. Senator Wallop.

Senator WALLOP. Thank you, Mr. Chairman.

I just have a couple of brief observations, and two quick questions.

One is, I think it is really important that people try to understand that this deal does not hang on the technology transfer. Its purpose is entirely separate from that. And should that take place, that is a benefit for which we pay nothing, and potentially reap great rewards.

Second, I am a little bit amused by some who say that the Japanese will use, and advance our technology into a huge competitive advantage over us, and that there will be no technical benefit to flow back to the United States. It seems to me kind of hard to argue from both perspectives—that we are not going to get any technology, but that we will build a technical competitor with whom we cannot compete.

I would say to my friend from Illinois—the reason why we did not have the same arrangement with the Israelis on the Lavi, is because we paid all the development costs. It was no co-development. We just footed the bill. And that was why the arrangement was different there.

I also want to make the point—a point that is going to be hard to make, without looking like an apologist for Toshiba, which in no way I am—I find that what they did to our Free world security is totally abominable and unacceptable. But that was Toshiba technology that was transferred to the Soviet Union, not U.S. technology.

That is a small distinction, but I think it is a distinction I make on the basis that our experience with the Japanese with regards to defense-related matters, has, so far as I have been able to determine, been impeccable. Is that a fair characterization?

Mr. FORD. That is correct. In fact, I misspoke when I was responding to Senator Dixon. I should have been more clear in my answer to say that this was, in fact, Japanese and Toshiba's technology. It does not excuse the fact that this technology was given to countries that are a threat to the United States—

Senator WALLOP. Nor do I. I want to make that absolutely clear. That behavior was as punishable as [inaudible] and in fact, the Senate tried very hard to arrange just that.

But in point of fact, our experience with regards to defense-related matters, has been superior to that.

General Yates, though I am aware that the GAO will be testifying in the executive session, a recent New York Times article has already publicly stated their findings, or many of them. In fairness to the administration, would you care to make any comments on

the conclusions which appeared in the press. I do not ask you to get into the technical.

General YATES. Sir, I have my back to the GAO right now. [Laughter.]

Senator WALLOP. I know, I am watching him for you. If it gets dangerous, I will wave.

General YATES. If you will cover my 6 o'clock, I will go ahead with this.

I had the opportunity to spend a couple of hours with the GAO, and frankly, I thought that they did an excellent job. I was not in disagreement, nor did I find fault with any of their findings.

I think, unfortunately, people have taken some of their comments out of context, and I think that is unfortunate for this whole important national debate.

But, as they will present here today, and I assume it will be what I heard them do the other day, I think they did a good job, and I think they presented the positive and the negative sides of the deal.

So, I did not find fault with them.

Senator WALLOP. I guess the point that I was, perhaps, trying to elicit, is that as it appears in the New York Times, the conclusion seemed to be based on the benefit from the technological flowback, and I would, again, try to state that that is not the reason by which this deal hangs together. And if it were, I would agree in the entirety that we probably should not do it on the basis that we do not know, if anything, will flow back.

My point is that the deal rests on its own, and if we get flowback, we get sort of a synergistic effect to this deal, which improves it dramatically over what is already a pretty good deal in the interest of the United States.

Thank you. Thank you, Mr. Chairman.

Senator BINGAMAN. Senator Levin, did you have other questions of this panel?

Senator LEVIN. Just a few, if I might, Mr. Chairman.

Is it fair to say that everybody on this panel would have preferred that Japan buy our F-16s?

Ms. McENTEE. Yes.

Mr. FORD. Yes.

Mr. CLARK. Yes.

Senator LEVIN. And Ms. McEntee, back to where you and I left off. Is there any doubt in your mind that there will be some benefits to Japan in developing a commercial aerospace industry from this joint venture?

Ms. McENTEE. It is hard, Senator Levin, to say that there will be no benefits at all.

Senator LEVIN. You believe there will be some benefits, albeit minimal?

Ms. McENTEE. Albeit minimal? I would assume that there would be.

Senator LEVIN. Some benefits?

Ms. McENTEE. Some benefits.

Senator LEVIN. Is it your point then that if we did not proceed, and if they did not buy our F-16, that they would gain even great-

er benefits from some other kind of a venture, with some other country, or from going it alone?

Ms. McENTEE. Yes.

Senator LEVIN. So then, the real question is, what efforts were made to get them to buy the F-16, or could we get them to buy the F-16—that becomes the real question.

And who is in the best position here to describe the efforts which were made to get them to buy the F-16? Would you outline for us what efforts were made?

Mr. FORD. I am doing it from a historical point of view, rather than as someone who participated, so I will have to be very cautious. I am talking mostly from conversations I have had over the past few weeks on exactly what the arrangements were. It is very clear that there were two Secretaries of Defense who made very concerted and personal efforts to convince the Japanese at the highest levels to buy the F-16s off the shelf.

There were people at State, Defense, and NSC, who were urging the same thing for their counterparts and at their levels.

This was something that was taken seriously. It was not done simply to be able to answer to this committee, or the Congress, at we had gone through the motions.

As we have all indicated, several Secretaries of Defense, several administrations have wanted, if given the choice, to sell the F-16 to Japan.

Senator LEVIN. Did anybody ever tell the Japanese that unless they buy our products that meet their needs, that we are not going to be able to buy as many of their products? That we are going to put some restrictions on their products?

Did any one of those people tell the Japanese that unless they buy our products that meet their needs, we are going to place—have to place some restrictions on their products, because we have got a \$50 billion trade deficit with them?

Do you know if anybody told them that?

Mr. FORD. I do not know that anyone told them that. In fact, my guess is, they did not put it exactly as you put it.

Senator LEVIN. Is the Commerce Department worried about the Japanese getting into the commercial airline-airplane business at all? Do you care?

Ms. McENTEE. Yes, of course, we are concerned.

Senator LEVIN. Why?

Ms. McENTEE. Well, I think we are concerned with the targeting of any major industry by Japan. Senator, judging from the past history that, again, we have had with several commercial aspects, whether it be super computers, or semi-conductors, or telecommunications, it is troublesome.

However, to reiterate again, we are very comfortable with this agreement.

Senator LEVIN. One last question, Mr. Clark. You stated in your second paragraph, Mr. Clark, that the final agreement represents a pact, not only between the United States and Japan, but between the administration and the Congress. You are not suggesting that we are bound to approve this?

Mr. CLARK. No, Senator, I am not. But I am suggesting that there were a number of suggestions made by the Congress that the administration has tried very hard to meet.

Senator LEVIN. But the Japanese are well aware, I presume, of the congressional power to refuse this deal?

Mr. CLARK. They are well aware of our legislative processes. Yes, sir.

Senator LEVIN. Including that?

Mr. CLARK. Yes, sir.

Senator LEVIN. Thanks so much.

Senator BINGAMAN. Senator Dixon, did you have additional questions of this panel?

Senator DIXON. I do not want to belabor it, but I would like to clarify, if I could briefly, Mr. Chairman, this question of the work sharing, which I think is confusing to some Senators, and has been a thing I have tried to understand as well as I could from a look at the memorandums of understanding and the letters of exchange, and so forth.

If I get this straight now—in the first development stage there will be six planes—is that right? One time it was four, and now it is six. I am just trying to be simplistic about this.

As to those six, if I have this straight—on the platforms and everything else involved, there is a 40-60 split on the work; 40 percent to us, 60 percent to the Japanese.

I am sorry, did I misstate?

General YATES. On the dollar value.

Senator DIXON. Okay. I did not mean to imply otherwise. Thank you for the correction.

Now then, on the engines—the first six engines—if I understand it correctly, will come from us. I believe I understand it to be the case that Pratt Whitney and General Electric are bidding on that deal, or something, to determine who will supply the engines.

Is that basically right?

General YATES. Not now they are not.

Senator DIXON. Oh, well, somebody has told me that.

General YATES. The two engine manufacturers that will be involved will be Pratt Whitney and General Electric, but we have not permitted any discussions between those two companies and Japan now.

Senator DIXON. Okay. But that is basically the ballgame. Now, after that, when you produce the airplanes—as I understand it, you will renegotiate the percentage.

It says, “approximately 40 percent,” in this last exchange of letters I have looked at that is somewhere in my stack of letters—but essentially, that is to be renegotiated—is that right?

General YATES. Yes and no, Senator Dixon. What it says is that we originally started off not dealing as specifically with the production phase of—we were only doing the development phase in the MOU. And in the clarification period, we became more specific about what was going to happen—what would have to happen in the production phase for it to be acceptable to the United States.

So that we have given them advance notice that in the production phase—that approximately 40 percent is a very important figure for us that we are not going to be able to band or negotiate

on. And they have agreed to this deal, knowing that that is a very firm negotiating position in the United States. We are not going to make it 35 percent.

Senator DIXON. I hear what you are saying. But my statement, I believe, is correct.

When the FS-X development program succeeds and moves on to the production phase, arrangements, including MOU for the production phase will be signed between Japan and the United States before any FS-X production can take place—in the event that the above mentioned MOU is signed, U.S. work sharing of production phase will be approximately 40 percent of the value. But it will be renegotiated? That is the understanding? That has not been done?

Mr. FORD. There will be a new MOU.

Senator DIXON. Now, and then with respect to the engines—the agreement now is silent as to what will happen to the engines?

The point I want to make with respect to all that is—I think it is rather interesting to observe that we are at this place now where many say we might as well go along with this whole agreement—we did not agree with almost everything that has been done.

My friend, Senator Danforth, the lead off witness has suggested that—but now that we have got it, we are pretty well stuck with it. We ought to go along with it. And yet the fact is that my friend, General Yates at least, and perhaps others have suggested, but do not worry, when we get into this second phase of these discussions, they are into it anyway then, and we will probably do all right there.

My sense of it is that when we are in it that far, and these six planes have been built, and we are negotiating with them again—having gotten that far into the process, the people who will get once again, in my view, the short end of the stick, will not be the Japanese—it will be the United States of America—both with share of the work, and with share of the engines.

Now, that is an observation I want to make, based on everything I have seen transpire so far about this deal. And everybody is entitled to their interpretation of it. That is mine.

Mr. FORD. We appreciate that, Senator Dixon. We happen to disagree.

Senator DIXON. I understand that. And I have the highest regard for your point of view. But I sense that once we are into it, the next time they are going to come here, and they will say, "Well, you know, you went for that first deal—we were stuck with it, once we got that far, that was the only thing we could do, and now we are into it." You know, "We got these six airplanes, and now we are at the next stage, and they have changed their mind about the approximately 40 percent, and they want to build all the engines, and what can we do?"

General YATES. But Senator, our view is that the leverage in that situation is just the opposite from our perspective of what you are saying.

In other words, it is the Japanese who will have put over a billion dollars into it. It is the Japanese who will have funded those six airplanes. Now, the Japanese are ready to take advantage of a billion dollar investment. And, in fact, if we deny the engines, they cannot go forward.

Senator DIXON. Well, those same Japanese could have bought these airplanes—\$30 million apiece cheaper. They could have just bought them off the shelf. They are not caring about the money. They want to develop a new aircraft, and I am saying to you in the end, they will. And they will do it with their people, and they will do it with our engines. And in the end, I think that 2 years from now when this deal unfolds, this Senator from Illinois will be right.

Mr. FORD. Senator Dixon, if I might just simply discuss one issue that has come up several times. I have reacted to it, but not spoken. I know that it is just a difference of opinion that we cannot resolve, but I agree with you that all countries produce aircraft for different reasons—many of them being commercial reasons. Obviously, the United States, Japan, Great Britain and Italy want to keep workers employed—keep their industries competitive. And that is the case in Japan.

Senator DIXON. That is why we are here.

Mr. FORD. That is right. But there is also a factor that most of the countries that are industrialized countries that can afford it, do not give away to any country their national defense production base.

If they can in any way afford it, they will not leave it up to the United States, or France, or Great Britain, to provide the only source of combat aircraft, the only source of tanks, the only source of anything military.

The fact is that we do not. We would be very reluctant, for commercial reasons, to be sure. Why do we not buy tanks from the Germans? They make a very good tank.

It is not just because we want to build tanks here. The fact is that we cannot afford to depend, as a sole source, on foreign countries for all of our military equipment.

The Japanese are no different—

Senator DIXON. Well, I do not quarrel with that. You are making my defense industrial base speech that I wish your Department would make more frequently. I do not hear them the rest of the year.

But thanks for the speech today.

Mr. FORD. We certainly believe it.

Senator DIXON. But the point is, there is an awful difference between the fact that the United States is providing most of their defense, in keeping the Persian Gulf clear for them, and a lot of other things. And I view that as a little different situation vis-a-vis the Japanese, than the Japanese versus the United States of America.

Mr. FORD. I agree, sir. But wait until we come back with the AWACS deal. Wait until we come back with other things that the Japanese are buying off the shelf.

Senator DIXON. I voted against the AWACS deal.

Mr. FORD. The fact is that there are certain things that the Japanese are going to produce themselves—the systems they consider vital.

Senator DIXON. I understand that.

Mr. FORD. There are things that they are going to buy from us. This just happens to be one that they do not want to buy from us. They want to build it themselves.

Senator DIXON. I understand.

Senator LEVIN. Mr. Chairman, what you said, in addition to what Senator Dixon is saying, we ought to remember, it seems to me, another principal point which is Ms. McEntee's point. She reaches a different conclusion, but the point that she makes in her testimony is something we ought to really focus on.

This agreement would mark the first time the United States will assist Japan to jointly design and develop—those are the key words—a fighter aircraft.

Now, that production is one issue, and I happen to agree with my friend from Illinois. I think we will get the short end of that stick when the time comes, but in addition to that, if we got full production rights, if we got 55 percent of the projection work, by that time they will have gained from us an invaluable economic prize which they do not now have which is to produce a fighter aircraft.

Mr. FORD. But they can do that.

Senator LEVIN. They can walk down the line, but we are going to assist them to do that. We are the master at this. They are the apprentice at the moment. We are going to teach them to develop something they have never developed before. We are going to teach it to them.

Mr. FORD. That is not correct. They already have developed their own indigenous aircraft, the F-1. They are prepared to build a new one.

Senator LEVIN. It says here this agreement would mark the first time. Well, they have not done it very successfully, put it that way.

Mr. FORD. The F-1 was totally indigenous. It was not co-developed.

Senator LEVIN. It was a successful aircraft?

Mr. FORD. Yes, it has been in their inventory for a decade or more.

Senator LEVIN. Well, there is a lot of dissent on whether or not that was a successful aircraft. But, let me tell you, they want this from us. They want us, I believe, to help them design and to develop this fighter aircraft. Do you disagree with that?

Mr. FORD. That was not their intention when we approached them to do this. They did not come to us and ask us for this. We went to them and pressured them into this deal.

Senator LEVIN. Do you think there is a benefit to them in this?

Mr. FORD. There is some benefit to them. There would be equal or more benefit if they went on their own and indigenously developed one or got the same sort of technologies from Europe. We would be the loser because American labor, American industry would have lost 40 percent of the work or \$2.5 billion.

Senator LEVIN. The only place we are the winner is if they buy our F-16s, right?

Mr. FORD. No, that is not correct Senator. We understand that you have—

Senator LEVIN. Why did we try to persuade them to buy our F-16s?

Mr. FORD. Because that would have been the best way for us. But failing that, we thought it was better to sell \$2.5 billion worth of workshare.

Senator LEVIN. That was not the question, and you stumbled over my question. My question was the only way we could have been the winner was if they bought our F-16s.

Mr. FORD. No, I do not agree, sir.

Senator LEVIN. Well, did we not try to get them to buy our F-16s?

Mr. FORD. Yes, and we failed in that.

Senator LEVIN. But would we not have been a winner if we had succeeded?

Mr. FORD. We would have been a winner if we sold them the F-16, yes.

Senator LEVIN. A minute ago I said the only way we would have been the winner was if we sold them the F-16s.

Mr. FORD. We also think we were a winner by at least convincing them to buy part of an American—

Senator LEVIN. We would have been more of a winner if we had gotten them to buy our F-16s.

Mr. FORD. Of course it would have been better for the United States. We all agree.

Senator LEVIN. So, we would have been more of a winner, you would agree to that?

Mr. FORD. We would be more of a loser if we let them build it indigenously or buy it from the Europeans—\$2.5 billion seemed to be better than zero.

Senator LEVIN. Again, my thanks to the Chair.

Senator BINGAMAN. Thank you all for testifying. We will dismiss this panel.

The next witness is Mr. Joseph Kelly who is Director of Security and International Relations for the General Accounting Office.

He has asked to testify in closed session, so we will honor that request and would everyone who is not authorized to be here for a closed session, please leave.

Senator WALLOP. Mr. Chairman, may I make an observation? The observation is simply this: That when you are working with your allies, the idea is not to be 100 percent the winner. The purpose of alliance is to get mutual benefits out of that alliance.

Senator LEVIN. Mr. Chairman, on the closed session issue are we going to be able to have an unclassified version of their closed testimony?

Senator BINGAMAN. I am certainly happy to have that prepared by them, and we can direct them to do that.

The only reason we are going into closed session is that Mr. Kelly has asked that that be the case. He said that attempting to testify in open session on the House side got him into difficulties in answering questions and for that reason—

Senator LEVIN. I was just wondering if afterwards we might get an unclassified version.

Senator BINGAMAN. We will request that, and I see no reason why we cannot supply it.

[Whereupon, at 5:10 p.m., the subcommittee proceeded in executive session.]

EXECUTIVE SESSION

The subcommittee met in executive session, pursuant to recess, at 5:15 p.m. in room SR-222, Russell Senate Office Building, Senator Jeff Bingaman (chairman of the subcommittee) presiding.

Committee members present: Senators Bingaman, Dixon and Wallop.

Professional staff member present: Richard D. Finn, Jr.

Minority staff members present: Judith A. Freedman and Durwood W. Ringo, Jr., professional staff members.

Staff assistants present: Barbara Gallo, Lori M. Jackson, and Cindy Pearson.

Committee members' assistants present: Edward M. McGaffigan, Jr., assistant to Senator Bingaman; Kenneth N. Luongo, assistant to Senator Levin; Charles C. Smith, assistant to Senator Dixon; Milton D. Beach, and Patricia J. Buckheit, assistants to Senator Glenn; James M. Bodner, assistant to Senator Cohen; Eric H. Thoemmes, assistant to Senator Coats.

Senator BINGAMAN. General Yates has heard the presentation, so I think as long as he is here by the time the questions start we will be okay.

Let me first thank you for testifying, Mr. Kelley. You prepared a report on a couple of aspects of this arrangement at my request. We received a letter back dated yesterday, I guess, with the items included.

First of all, let me get an answer from you on the question that Senator Levin raised. Do you have any objection to releasing the transmittal letter and the portions of your enclosures that are listed as unclassified?

Mr. KELLEY. No, sir.

Senator BINGAMAN. So I think there are only three paragraphs. He says he has already excised those out of here, so we will have copies of that that can be taken by committee members and released.

Senator LEVIN. And the testimony?

Senator BINGAMAN. What about this? Is there any problem with that?

Mr. KELLEY. That is all unclassified.

Senator LEVIN. Could the hearing also be sanitized, the hearing record, so we can use it?

Senator BINGAMAN. I have no problem with that.

Senator DIXON. How can we do that, Mr. Chairman?

Senator BINGAMAN. How can we do that?

Senator DIXON. In time for the debate on Thursday at the very latest.

Mr. FINN. The transcript of this hearing should be available if not by close of business tomorrow then——

Senator DIXON. Are we going to have a problem about whether we can use all of it or not? That is the problem we have?

Senator BINGAMAN. Can we sanitize the transcript?

Mr. FINN. In this part of the hearing the responsibility for sanitizing the transcripts lies with the agency which originates the classification. In that case it would be the General Accounting Office.

I would be happy to have them review it.

Mr. KELLEY. I apologize, Rick. GAO does not classify the documents.

Mr. FINN. Then the Defense Department will have to review the classification.

Senator DIXON. My problem with this, Mr. Chairman, is that, for instance, this letter was finally sanitized to the point that we could put it in the record on the floor today. Some of the things in the very voluminous MOU we could not use today because they are stamped secret and classified, and if these gentlemen afford us some information that we want to use in the discussions on the floor I am always kind of uncomfortable with that unless you know what you can use and what you cannot use.

Senator BINGAMAN. Why don't we ask the Defense Department? Would you work with the committee to review the transcript as soon as it is available tomorrow and excise from it anything that you believe is of a classified nature so that we can use the rest of it in the floor discussion on Thursday?

Mr. Kelley, why don't you go ahead and make your presentation?

STATEMENT OF JOSEPH E. KELLEY, DIRECTOR, SECURITY AND INTERNATIONAL RELATIONS, U.S. GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY GEORGE A. SOUSA, ASSISTANT DIRECTOR, NATIONAL SECURITY AND INTERNAL AFFAIRS DIVISION, GENERAL ACCOUNTING OFFICE; GLEN LEVIS, EVALUATOR-IN-CHARGE, NSIAD, GENERAL ACCOUNTING OFFICE; AND RICHARD S. FELNER, TECHNICAL ADVISOR, NSIAD, GENERAL ACCOUNTING OFFICE

Mr. KELLEY. Sir, one of the things I would like to start off with to clarify my view on this problem that, as you saw in the letter, most of the material on the composites is unclassified. Some of the sources on the radar makes the information pretty much classified.

We are reluctant to just try to summarize it, and I think on the other hand we need to have that information here so you get the full picture of what we heard.

We had problems with this when we got into the questions this morning, in a meeting on this issue with Mr. Gephardt and about 10 or 11 other Members. We started out in an unclassified mode and it was no more than about 10 minutes when we got into questions of a classified nature. It is not so much the material I am going to tell you today or the team is going to say, except for radars. You get into questions about what kind of negotiations went on, what did we ask for, and how hard did we push for an off-the-shelf purchase of U.S. aircraft. Answers to these questions get into classified material.

DOD was quite open with us. We got reams of documents from them. And about 80 percent of that data is stamped confidential or secret. We are not in a position to take those and say, well, since DOD is not having problems talking in the open on this we can do it. We just cannot do that when you get into those questions. So that is part of the problem here.

If we could have an open session where we just say we just cannot answer that, I think it would not be very fruitful.

Senator BINGAMAN. We understand the limits you are under. So why don't you go ahead and make your presentation?

Mr. KELLEY. My understanding of the appearance today is that we are here to do a briefing, so I do not have a formal statement. What I would like to do, sir, is cover about four areas and have some of the team give more details on the technology that is coming back into the United States. Mr. Levis on my right, who is my team leader on this job, can help us out on some of the discussions of what we saw in the record vis-a-vis the MOU coordination, things like that.

Then we can talk a little about the safeguards over the technology that is going to be transferred, some of the things we have seen there.

We have a little bit on the commercial application. I will tell you that we did not study that as a separate item, but we did ask questions about it. We got some views from people, but we do not have a bottom line on it. But there are some concerns there and we can mention some of those.

And then there is a little bit of information on the costs. These are basically the things that the four requesting Senators—Senators Dixon, Helms, Bingaman, and Ford—asked us to look into. I would say by far the most emphasis has been in the examining the technology that is going to flow back to the United States in composites and radar technology. This is where we spent most of our time.

In doing this work, Mr. Chairman, we did an extensive amount of work in DOD. We went to the Commerce Department. We dealt with the industries involved. We went to General Dynamics, the Air Force's Wright Research and Development Center at Dayton, Ohio. We went to the radar contractors, Westinghouse, Texas Instruments, and Hughes. We went to one of the major U.S. airframe manufacturers that produces composite wings—McDonnell Aircraft. Our team also contacted other U.S. companies that use and manufacture composites in aircraft.

So I think we have pretty good coverage insofar as the agencies and companies we visited. We did not go to Japan on this job because about the time we received the request the new administration had started the discussion about reopening the negotiations. So they were going on at the time that we got the request and we felt perhaps it would be inappropriate for GAO to be asking questions when they were still negotiating the changes.

So that kind of gives you a flavor for where we have been. One of the points I would like to make is that—and it was made in spades here before, but I would just like to confirm it—DOD and State did not coordinate this FS-X program with other agencies, i.e., Commerce. It was clear that DOD and State, going back about 3 years,

had entered into discussions with the Japanese and the Commerce Department was not involved at all.

After the legislation was passed in the Defense Authorization Act, which you were involved in, DOD provided a cursory briefing to the Commerce Department in late October 1988. By that time the MOU was pretty much negotiated and DOD felt it was inappropriate to bring Commerce into the negotiations. As you know, commerce and the other economic-policy making agencies commented on the program in the February-March time frame.

The point I would like to make here is that this is not the first time this has happened in defense arrangements with Japan. We looked at the F-15 co-production arrangement in 1982. That transaction started in 1979 and they are still co-producing the aircraft. And the very same thing happened. Commerce was not brought in.

Our concern then was not so much that it was a bad deal, but we think that when DOD and State get into these kinds of transactions they need to have the economic agencies involved early on, not at the end to look at the industrial base consequences and the economic issues.

So that issue has been brought up. We see that same concern again in this program.

Let me jump quickly into the technologies—the Japanese FS-X-related technology. Based on the records that our team saw—and, as I said, DOD was quite open with us and let us look at anything we wanted to look at—this transaction was not pursued by DOD and State with the primary objective of obtaining access to Japanese technology or balancing the exchange of technology. As we heard today, there were other strategic interests involved and national priorities were involved.

However, once Japan agreed in principle to co-develop the aircraft, and our negotiating position was developed, the United States stressed the importance of obtaining access to the new aircraft's technologies. DOD officials have emphasized to us that they are looking at this from the standpoint of composites, and phased array radars. DOD is looking at the potential value of these technologies in a general sense and are impressed by the Japanese capability for manufacturing.

So I think we have to emphasize the point, that access to Japanese technology was not basically an objective when they first started discussions with the Japanese.

Our preliminary observations are that overall the United States has superior composite technology and appears to be ahead in radar development. These observations have to be qualified because the United States still has limited information from which to make meaningful comparisons about these two technologies.

What I would like to do now, sir, is have my engineers give us a rundown. You have the briefing sheets on the composites. We will do a quick rundown for you to explain the backup for my statement on the composites. This is Mr. George Sousa, who is an employee of GAO. He is an electrical engineer. He is sitting in for Mr. John Barmby, also a GAO employee—who is an aeronautical engineer and who has done this work. He was unable to be here today. If you have any questions, jump in.

Mr. SOUSA. Good afternoon. You have copies of the briefing that were passed out.

On the first page of the handout we are looking at the Japanese composite wing technology.

Senator BINGAMAN. Unfortunately, this thing is off. It does not work.

Mr. SOUSA. In our study on composites, we sought information on such things as: what was available to Japan, what did the U.S. industry have in the way of this composite technology, and was there a requirement for it in the United States. Did we have any airplane that we needed this for? And then overall what were our observations in looking at these matters individually and collectively?

On the second page of what I handed out is what I call the Japanese concept. However, this is an artists' concept of what it looks like.

The bottom is a layer of composite material, and the tops are ribs and spars. Now these things are assembled with jigs and fixtures, placed in an oven and baked in an autoclave. This joins the various pieces—the bottom layer, the ribs and the spars—to make a one-piece structure.

To check the bonding of the one-piece structure you have to use ultrasonics. This is the difficult part of the co-cured composite process—to check each of those fusions to make sure they are solid bonds. In the next part we take the upper skin and use fasteners to attach it to the lower section. That gives you a co-cured composite wing that can hold fuel. Individual veins within the wing keep the fuel separated.

So that is basically the technology we are talking about. We do not have an airplane that I know of that has this co-cured wing technology that pulls the kind of G forces that an F-16 type aircraft does.

The next vugraph describes the evidence we have about Japanese composite wing technology. As far as we could determine, people went over to Japan—DOD and industry—and what they saw was a fabricated example, a specimen of how one would go about co-curing composite structures. No curves of that particular specimen were shown. They were flat surfaces, but the basic technology was shown to be co-cured and laminated so that it looked like it was one piece.

DOD and industry representatives saw no test results that say this kind of co-curing composite process can take certain stresses and strains. But they saw an example. So what they looked at, as General Yates says, was a potential existed for this type of process to develop a wing. And, by the way, this wing turns out to be lighter and you may get some advantages such as you can fly faster, you can fly farther, you can carry more hardware.

So there are potential advantages in this approach. The likelihood of proven performance, that you can really build these wings, however, is kind of risky. We discussed it with about 50 experts in this field, including officials in the materials and structures labs at the Air Force's Wright Research and Development Center, and the contractors who are building this kind of equipment nowadays. They all said it is a risky venture to build the co-cured composite wings on schedule and within cost.

The important part of this co-cured composites technology is that General Dynamics is going to get paid to take the process of the Japanese developers, use the tools and fixtures the Japanese develop, and build some of these in Fort Worth. In fact, they are going to build six wing boxes. Four are going to be sent back to Japan to be used for ground and flight testing and two at General Dynamics will be kept to run their own testing. They are going to run some static and dynamic tests on the co-cured composite wings.

Senator BINGAMAN. Did you say General Dynamics is going to pay to do that?

Mr. SOUSA. No. They are going to be paid to do it themselves.

Senator BINGAMAN. They are to be paid to do this for Mitsubishi?

Mr. SOUSA. Yes. This is a co-development program and I do not know of any others that our contractor has been paid.

Senator BINGAMAN. So General Dynamics will take the design that the Japanese have in concept form, take it to Fort Worth and try to see if it works?

Mr. SOUSA. Even more than concept form, sir. They will take what they have developed and produced and show that they can develop and produce it and use the same procedures in the General Dynamics facility and build the same thing, try to replicate what was done in Japan. There are some benefits to this—better performance of the aircraft because you have light weight. Reliability should increase because you do not have the corrosion you will with metals, and if the manufacturing process is worked out, it is claimed to be cheaper. Now it is tough to be cheaper because General Dynamics has built a lot of sets of F-16 wings and they have the production process down pretty cold, and the cost is minimized.

So to beat that process might be tough. The problems with the Japanese concept are on the next page. It is a wet wing that they are building here. That fuel is going to cause some pressures inside. Fighter aircraft of this type will pull high Gs. There is going to be a lot of forces on that wing. Also they have tested one type of wing like this with gunfire using a 23 millimeter shell. They hit the bottom side of it and it started delaminating. If you have fasteners in this kind of a co-cured wing, it tends to confine the area of damage within the area that is fastened and you can repair it.

Senator DIXON. McDonnell Douglas puts fasteners in theirs.

Mr. SOUSA. So the real trick is to be able to manufacture this kind of wing in quantity that has the characteristics you need for an airplane of the F-16 type.

The cost of the basic composites are far more expensive than regular materials you make for a metal wing, but it is hoped that the process will speak for itself and you can make it cheap in the long run.

The next page shows you we have a lot of manufacturers in the United States that make the materials with which you make composites and we have a lot of contractors, aerospace-type contractors, that build these composite-type materials. We are not behind. We just do not build our composite wing the way the Japanese are proposing to do it.

The next page shows you the kinds of aircraft, military and civilian aircraft, that use composites, and where most of the composites are used in both military and civilian aircraft—in the tail section,

the vertical and horizontal stabilizer. A lot of co-cured materials are used there. But composite components in wing boxes are used sparingly, and that is on the F-18, the AV-8B, and the upcoming Lear Fanjet. So there is not too many aircraft that use wings of composites of the type that the Japanese propose. Now the wings that are used that are composites are fastened both top and bottom.

Senator WALLOP. Could they use them?

Mr. SOUSA. They could, but there is a story that goes with the fastener. They call them chicken fasteners because people are not excited about the fasteners being—the regular lamination holding. They want some fasteners in there to take care of people that are chicken.

Senator DIXON. And that is classified. [Laughter.]

Senator WALLOP. But again the question is serious, chicken fasteners aside. Were it to be a successful design concept after testing and other things, do you not then have a wing that is both lighter and with less strain?

Mr. SOUSA. It has good characteristics. The main one, if it can take all the stresses of the G forces in the airplane, it makes it lighter, and we could go further and could carry more. If it does everything a metal wing can do, there are advantages.

There is a potential there, I think, that the Government does not want to give up as long as the potential is there.

Senator DIXON. I would not argue with that. But the plain fact is that we are as advanced as they are in this composite wing business right now. I do not have any quarrel with anything you have said at all on the basis of the limited knowledge I have. But the point is, are we getting any advanced technology from them in this area, and the evidence is we are not.

Senator WALLOP. That is not the evidence. The evidence is we do not know because it would not be a research project.

Senator DIXON. Well, we do not know. I would concede that.

Senator WALLOP. The benefit, if it is realized, is substantial. If it is not, it is not the basis upon which the deal was made in the first place.

Senator DIXON. And if we never made this deal at all and went on with our own development of our own technology we might get the same result.

Senator WALLOP. But, Alan, we do not use this, if you look at wings, hardly at all. We would.

Senator DIXON. We do use it in aircraft right now, right?

Mr. SOUSA. It is not used in aircraft—in fighter aircraft only, in the F-18 and AV-8B, and that is a mixture in the AV-8B. We use metals, composites, the whole works.

Senator BINGAMAN. So it is a good summary of your testimony on this composite thing that we do not know whether they have got anything there that is an improvement on what we are doing, but it does not appear that it is?

Mr. SOUSA. No. I think I would say it a different way.

Senator BINGAMAN. Please say it your way.

Mr. SOUSA. What has been shown to the Government representatives, both industry and military, is something that looks like a co-cured composite. It does not have the shape of a fighter aircraft

wing. It does not have curves to it. But the process and the technology looks promising. If it comes to fruition, it could be a candidate for a wing to be used on a future F-16, like the Agile Falcon, the one coming down the pike perhaps in the next 5 or 10 years.

Senator BINGAMAN. So the technology and the process may in fact be of significant benefit to our aerospace industry?

Mr. SOUSA. It may be, but there is no definite proof that it is today. The possibility is there.

Mr. KELLEY. There is one thing I would like to mention, Senator. On our paper we sent up to you, the one part of this thing that is classified is that after a lot of discussion when they made some of these trips to Japan the JDA admitted that the co-cured composite wing technology was not mature and today they just could not manufacture it.

Senator BINGAMAN. Why is that classified?

Mr. KELLEY. It came out of a classified document. That is the point I made early on.

Senator BINGAMAN. Someone else said it was classified so it is classified?

Mr. KELLEY. Well, we have to adhere to the strictures of the Department of Defense.

Senator BINGAMAN. Why did the Department of Defense say that that is classified?

General YATES. Sir, I cannot imagine. I mean, I cannot imagine that it came out of a classified document which was totally classified. I cannot imagine why that statement would be classified. I am quite certain that when we review this testimony that will not be one of the things we will strike out.

Senator BINGAMAN. There is only one paragraph in your entire description of the composite materials or composite wings which is classified, and unless it was just that we did not want to be embarrassed by telling the public that we do not have any idea whether they can make it or not, which was the only thing in there that I could figure out that might justify classifying it.

Mr. KELLEY. Well, normally with this type of work we go back and sit down with DOD and say here is something to look at, you can look at it for security. This thing has been moving so quickly we just have not had time to do this.

Senator BINGAMAN. Well, you have not had time. DOD can tell us if it is classified.

Senator WALLOP. Mr. Chairman, General Yates might well be able to tell us what potential benefit there would be were we to achieve such a wing. Am I correct in saying that we are not going to have to pay to discover this and the Japanese are paying?

Mr. SOUSA. The Japanese are paying General Dynamics to use their processing procedures for manufacturing the wing using the jigs and fixtures and doing it in General Dynamics at Fort Worth. They are being paid to do it.

Senator BINGAMAN. General Yates, did you have a comment on the value of this?

General YATES. Sir, I was going to answer Senator Wallop's question that the values are clearly as has been mentioned already, that if they are successful in doing this that it would be lighter. Literally in the wing, in any wing including a wing where you have

composite skins and composite structure, you have thousands of very close tolerance holes which are put in the skin and which are put in the structure. Holding the tolerance on those holes is a part of the rework and scrap process in building an airplane.

It is tough to do. This co-curing process eliminates all those close tolerance holes on the bottom of the wing. Further, if we had an airplane with a co-cured wing and we walked beneath it you would not see a fastener. Today every fastener you see in the bottom of the wing is a potential source for fuel leaks. So it would eliminate all those potential leak sources.

So in the long run the reliability and maintainability, the cost of ownership of that airplane would go down. So there are significant benefits. This, I think, is a very objective assessment.

Senator BINGAMAN. Is there anything more you wanted to say about the composite wing or should we go to the phased array?

Mr. SOUSA. We can go to the last page. The observations kind of sum up everything we have done on the composites.

Senator BINGAMAN. Why don't you go through that for us?

Mr. SOUSA. We are uncertain if the wing can be cost-effectively produced on schedule and within budget. The evidence that they can do that is limited. The United States has greater composite capability overall within our industry. We have not chosen to produce a completely co-cured wing, but we could do it. Continued R&D money is needed to maintain this sort of lead if we want to do that. And last, but not least, the requirement is a modest one, if economically feasible, and probably only for a future F-16 aircraft that pulls high Gs and needs this kind of a composite structure requirement.

There may be something for future airliner parts, but we are talking about the MD-91s and 7J7s or something like that in the year 2000 and beyond.

That about summarizes it.

Senator BINGAMAN. That is fine. Are there questions? I would like you to do the same summary, if you would, of the phased array?

Mr. KELLEY. We have Mr. Felner to do that. He has been specializing in that.

Mr. FELNER. I have a small handout. The front page is a summary of the material in the briefing that I will be going through, sir. I will refer to the back page as we go along.

As part of the FS-X program, Japan has been developing a new technology, active phased array radar, that uses elements called transmitter-receiver modules. The critical challenge is the development of a manufacturing process to produce efficient, quality modules that are affordable.

The two U.S. companies that we interviewed are currently developing a phased array radar and modules for advanced fighter aircraft—the Advanced Tactical Fighter and the Advanced Tactical Aircraft. Current U.S. module cost is about \$8,000 per module.

Senator BINGAMAN. That is the pen you held up before?

Mr. FELNER. Yes, sir.

Senator BINGAMAN. The question is not whether they can produce something that we are unable to produce but whether they can bring the price of it down significantly? Is that accurate?

Mr. KELLEY. Yes, sir.

Senator DIXON. I saw that last Friday. I am a repeater on this.

Senator BINGAMAN. That costs \$8,000?

Mr. FELNER. Yes, sir. In 1985 dollars.

The current U.S. industry anticipates a full rate production cost to go down to about \$400 a module, that order of magnitude or more reduction.

Senator WALLOP. I am sorry. Could you say that again?

Mr. FELNER. Current U.S. module cost is about \$8,000. U.S. industry officials anticipate full rate production cost to be about \$400 per module.

Senator BINGAMAN. Industry says they ought to be able to build them for \$400 but they are charging us \$8,000 for it?

Mr. FELNER. The presumption, sir, is as we go to full-rate production, which means somewhere on the order of 1,000 antennas or 2.5 million modules—

Senator BINGAMAN. Then the price would drop to \$400?

Mr. FELNER. Yes, sir.

The phased array radar technology is well known. The ability to produce these modules at an affordable cost is a significant task that remains to be accomplished. DOD would like to acquire from Japan the manufacturing technology for the radar module. The Japanese radar modules use advanced technology which can improve range, increase the number of targets tracked simultaneously, reject jamming, and also enhance reliability.

The radar for the FS-X will be developed exclusively by the Japanese without U.S. participation, funding or risk.

The cost of the technology was not addressed in the agreement.

Senator BINGAMAN. Let me be sure. Under the agreement—let me ask the General this—under the agreement we have a right to the manufacturing technology that goes to produce these phased array radar modules?

General YATES. No, sir. We do not have a right to proprietary information, but the Japanese are obligated to strike a deal with us where they flow that technology back to us. In other words, the implication, I thought, in your question was do we get everything that has to do with this, and the answer is no. The specifics in the deal, the economic deal which would be struck are to be determined, but they are obligated to flow the technology back so that we can build those in this country.

Senator BINGAMAN. But we do not specify what price they are able to charge us to do that?

General YATES. Yes, sir, that is correct. But the point of that, Senator, would be that if they make the R&D investment in these they are going to produce 130 airplanes, basically one a month for 10 years. That is the nature of this program. If they make a substantial R&D investment and they do bring the cost of these down and there is a market for it in the United States, then it seems to me that the economics are going to determine the price.

You know, just as has been said earlier, our industry is certainly not going to be standing still in this regard and our costs are going to be coming down, so they are going to have to compete with our industry in that regard. So we are not guaranteed a price.

Senator WALLOP. And absent some kind of an arrangement with us on production it would be extraordinarily expensive for them with only 130 aircraft.

Mr. KELLEY. The market is here.

General YATES. That is where the market is.

Senator WALLOP. So we will have drawn on the technology should they develop it.

Mr. KELLEY. It is the production of it. General, would you not agree?

General YATES. It is the production process for modules we are interested in.

Mr. KELLEY. We have the technology.

Senator WALLOP. I again misspoke, and that is one of the problems here. Really all we are expecting out of this is manufacturing techniques, right?

Mr. KELLEY. There is a misconception that they think it is a whole new radar. It is not.

Mr. FELNER. The next item is U.S. knowledge of Japanese radar being limited, and this particular item came from a classified source. DOD's efforts to obtain adequate data to assess performance of the radar, including test and evaluation results, have been largely unsuccessful. In April 1987 a DOD team visited the Japanese facility that was producing the antenna modules.

Senator BINGAMAN. I do not think you need to read the whole report here. Let me ask the General if you could look at the two paragraphs when you do your review for purposes of determining whether this has to be classified again. I read the two paragraphs at the top of page two of this description of phased array and could not see why we are classifying that.

General YATES. Yes, sir, we will do that.

I will personally take an interest.

Senator BINGAMAN. There are only three paragraphs in everything you folks have prepared, as I understand it, and I just could not see any real basis for any of that being classified. Are there any other points? Do you want to make a summary point about your conclusions on the phased array or does Senator Wallop have other questions?

I read through your report and we do not really need you to read it to us.

Mr. FELNER. I would refer you just quickly to the second page of the charts to give you again a look at the quantity in thousands breakdown and the price as it comes down on a learning curve with the production of these modules to give you an idea of how the price and the number of these units is related so that you can see that we have to have numbers on the order of 2.3 million modules, which means if you have 2,000 in an array, that is 1,167 antennas.

In summary, then, the United States has seen the need to improve the performance of airborne intercept radars. U.S. industry have been working longer than Japan to develop the same antenna technology. Overall, the United States appears to be ahead of Japan, but the U.S. Government and industry representatives have been unable to obtain adequate data to make a confident assessment as to the potential of Japan's antenna development.

Senator BINGAMAN. Okay. Did you have additional concluding remarks?

Mr. KELLEY. We had some other information on safe-guarding the technology and I think we have been through it. You have heard it from earlier witnesses. We have seen the process that is going to be set up for Commerce to be involved. We agree with respect to controlling the release of the technology on the digital flight control software source codes.

I guess the emphasis on releasing technology is that this program is going to go on for a long time. It will require an intensity on the U.S. side to carefully review future requests for technology release there for a long time. We saw similar things happen with the F-15 and after about 3 or 4 years of production things changed. That is the only remark I would make there.

On the commercial application, as I said, we did not look at that in any kind of scientific way. We had established in 1982 when we talked with MITI on the F-15 coproduction project that Japan definitely had targeted the aerospace business as one of their priority requirements, and that was stated here again today. You get kind of a mixed view on this thing. You talk to U.S. industry types and they feel that Japan definitely will gain some benefit from this project. We did talk to some Commerce people. They say that perhaps not one project like this is going to do it, but if you go back and you are co-producing, since the F-86, several different aircraft then it could have some impact on future competitiveness.

There are some differences of view as to what that is going to do with respect to improving their capability. I think everyone would agree that Japan could achieve its goals a little bit faster than what they would if they were on their own. So all we are reporting in the commercial application issue is that there are some different views and we do not have a bottom line on it because it was outside our effort.

Senator WALLOP. Can I ask you, I would not quarrel and nobody would quarrel that they are probably going to get there a little faster than if they were to do it on their own. But having gotten there a little faster there are still a great many more constraints on what they do with it than what would constrain them in the use of their own technology or any that may be developed with the Europeans. Is that a fair statement?

Mr. KELLEY. I believe so.

Senator WALLOP. Than if they had gone with the indigenous airplane?

Mr. KELLEY. Yes.¹ And I think—

Senator WALLOP. So time may be one factor of measurement, but not a very useful one?

Mr. KELLEY. And DOD makes the point to us that that was one of the reasons why we wanted to do this project with them, because if Japan started throwing a lot of money into military R&D or into this business they could get there perhaps equally as fast.

¹ Upon reflection, the answer was changed from no to yes to recognize that the United States has placed constraints on the release of technology. With domestic (Japanese) development, the same constraints would not exist.

Senator WALLOP. That is the same kind of problems we had with the Europeans once they started off on their own. Not only did we lose markets but we lost customers from them. We lost the competitive markets elsewhere.

I just have one last question, General Yates. There is a statement in the GAO report that the Japanese co-cured composite technology may not be much in demand in the next generation of fighters. Would the Air Force agree with that, especially with ATF and other aircraft. I guess one answer, and let me just toss it out, you will not know until you find out what they have been able to do.

General YATES. I think their concern is a technical concern about heat soak at higher mach numbers. It is valid and I do not know the answer. But I think it is premature to reach judgment on it, because I can tell you that at least one of the ATF consortia is considering co-cured wings. So it is just premature, Senator, for me to say.

Mr. KELLEY. Would it not be fair to say, though, that by the time this comes on line, will the requirement still be there if it works?

General YATES. In other words, he is saying would we be so far along in manufacturing F-16's by the late 1990s, to warrant introducing this new process.

Senator WALLOP. That we could not use it anyway?

General YATES. That we could not use it anyway. I think if it is interesting to us, I mean if it does seem to have benefits, this is the type of thing that we could very easily break into a production line halfway through because basically the pilot flying the airplane is blind to that kind of structural change. So I do not think it would be too late to introduce into a production program.

I just think now is too early to reach a decision.

Senator WALLOP. But the fact remains that whatever comes out of that, that is all being developed at no risk to us other than the one that it may be applicable somewhere down the line on the commercial side.

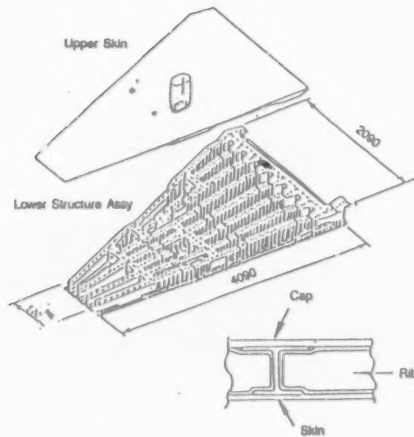
Senator BINGAMAN. Okay. Thank you. Thank you all very much for the testimony.

[Charts used in the course of the hearing follow:]

BRIEFING ON FS-X COMPOSITES

- Introduction
- Proposed Japanese Technology
- U.S. Capabilities
- How Much of a Requirement is There?
- Observations Regarding FS-X Composites

FIGURE 1
JAPANESE CONCEPT OF
CO-CURED COMPOSITE WING



JAPANESE CAPABILITIES

- Evidence of Their Activity
- Likelihood of Providing Specified Performance for Stated Schedule & Cost
- Importance of GD Producing 4-6 Prototype Boxes

PROMISE of JAPANESE CONCEPT

- Better Performance
- Better Reliability
- Less Expensive

PROBLEMS WITH JAPANESE CONCEPT

- Design
- Manufacture
- Operations
- Cost

U.S. CAPABILITIES FOR "VITAL TECHNOLOGIES"

Technology	U.S. Examples			
	X-29	AV8B	A-6	V-22
1. Co-curing <u>Pieces</u>	--	XX	X	X
2. Curing Large <u>Wing Skins</u>	X	X	X	X
3. Composite <u>Spars & Ribs</u>	-	X	Some	X
4. Co-curing Spars to Bottom Skin	--	Fasteners		-- Some

Selected composite fabricators (by markets and strategies for participation)	
Aerospace composite fabricators	
Predominantly in-ops	
Bell (Textron)	Boeing
General Dynamics	Lockheed
LTV	McDonnell Douglas
Northrup	Rockwell
Strong composite fabricators	
Design and fabrication services	
Grumman	Shorby (United Technologies)
Fiber/wind	
Brunswick	Hercules
Morton Thiokol	
Lay-up	
Bristol Composite Molds (B.P.)	Loral Systems Group (Loral) ¹
Heath Technics (Ciba)	Waco (B.P.)
Smaller composite fabricators	
Fiber/wind	
Composites (Kelsey Hayes) ²	Fiber Materials Int.
Structural Composites Inc. (Pittsboro)	
Bracing	
Albany International	
Other	
Advanced Composite Products	Fiber Science
KIT Composite Technology (Allied Signal)	Pultrusion Technology
Composites automotive part fabricators	
Leaf springs	
GKN	Intend (General Motors)

1. Formerly Goodyear Aerospace, sold to Loral in 1987 for \$600 million.
2. Composites is being sold, along with other aerospace operations, to Grubbs Aerospace (Pittsboro, N.C.).

FIGURE 2
U.S. HAS EXTENSIVE
CAPABILITY FOR
COMPOSITES IN GENERAL

Leading materials suppliers for advanced composites					
Resins		Fibers		Other	
Thermoset	Thermoplastic	Graphite	Aramid		
Cox Corp.	Amoco Chemicals	Amoco Chemicals	Akzo	Allied Signal (oriented polyethylene)	
Dow	BASF	Akzo Chemicals	Du Pont	Arcel (boron and silicon carbide)	
Du Pont	Du Pont	Heppon Carbon	Toray	Carborundum (ceramic)	
Eastman	General Electric	Ashland Chemical		DSM (oriented polyethylene)	
Eastman	Hoechst Celanese	BASF		Hoechst Celanese (aromatic polyester LCP)	
Eastman	ICI	Courtauld		Owens Corning Fiberglas (E-glass)	
Eastman	ICI	Eastman		Solvay (aromatic polyester LCP)	

Observations

1. Japan believes the wing can be cost-effectively produced;
 - On schedule & within budget;
 - But the evidence is limited.
2. U.S. has greater composites capability overall;
 - But has not chosen to produce a completely co-cured wing;
 - Continued R&D money is needed to maintain lead.
3. The requirement is modest, if economically feasible;
 - Probably only for future F-16s;
 - Perhaps for some airliner parts.

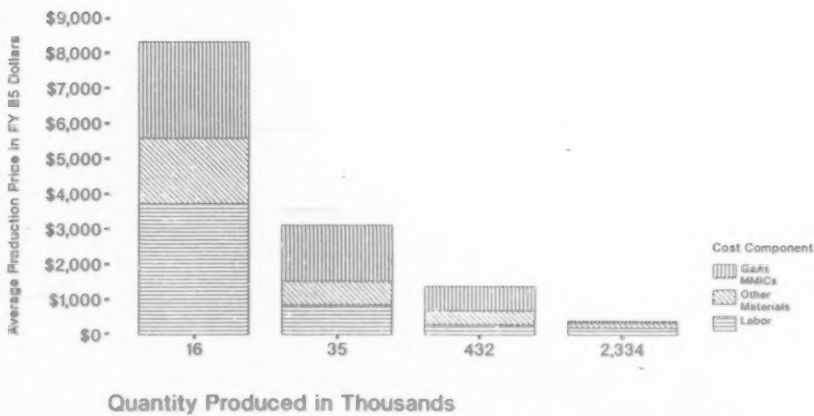
Civil Requirement ?

1. Near Term
Not Likely
2. Year 2000 Subsonic
Likely for Empennage
3. Supersonic Transport
Not Likely
4. Hypersonic Transport
Need Special Materials

PHASED ARRAY RADAR TECHNOLOGY

- DOD Interested in Acquiring Japanese Radar Technology
- U.S. Knowledge of Japanese Radar is Limited
- U.S. Industry is Making Significant Advances in Module Development
- Japan Claims to Have Flight-Tested the Radar
- Benefits are Uncertain

**T/R Modules
Price Summary**



When more units are produced, the price per unit is lower.

[Whereupon, at 5:55 p.m., the subcommittee adjourned.]

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